

**TOWARD A COOPERATIVE LEARNING PROCESS IN
BUILDING SOCIAL COHESION IN A GRADE 10
GEOGRAPHY CLASSROOM: AN ACTION RESEARCH
APPROACH**

BY

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**MINI-THESIS SUBMITTED IN PARTIAL FULFILMENT
OF THE REQUIREMENTS FOR THE DEGREE
MAGISTER IN EDUCATION (CURRICULUM STUDIES)**



IN THE

**FACULTY OF EDUCATION AT STELLENBOSCH
UNIVERSITY**

STELLENBOSCH

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MARCH 2015

DECLARATION

I, the undersigned, hereby declare that the work contained in this thesis is my own original work and has not previously in its entirety or in part been submitted to any university for a degree.

Signature.....

Date.....

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SUMMARY

This mini-thesis documents two action research projects which I conducted as a teacher researcher in my Grade 10 Geography classroom. The research was an attempt to improve my teaching as a Geography teacher and to enhance social cohesion in my classroom.

This mini-thesis investigated the following research questions: How can cooperative learning be used in a Geography classroom to build and improve social cohesion amongst students? And how can I improve my own teaching practice? The focus of the study was on cooperative learning as a teaching strategy, while action research was the research methodology. Two action research projects were completed and reflected upon within the action research framework. This mini-thesis, which include two action research projects, is based, underpinned and influenced by the critical theorists such as Darder (2007), Dewey (1938) Freire(1972), Habermas (1972), Giroux (1988), McNiff (2002, 2006, 2010) and Waghid 2011).

In reflecting on my practice, I realise that there is a problem in terms of helping students to foster an promote positive social relationships and working together in the classroom. In this mini thesis I contend that cooperative learning holds the potential to improve social cohesion and social relationships amongst students.

Cooperative learning emphasises cooperation as integral to students' success and because of this cooperative learning has been found successful in fostering positive intergroup attitudes in classrooms. South-African teachers in recent years have been compelled to embrace a more learner-centred approach as opposed to a teacher-centred approach. I believe cooperative learning could be instrumental in enhancing learner performance and promoting positive social relationships amongst classmates.

I consider my teaching practice to have certain defects and through action research I can investigate and reflect on this with a view of improving my practice. Self-reflection and introspection led me to critically examine my classroom practice. In this research I also tried to encourage students to interact with one another in a positive way. This study uses cooperative learning as a teaching strategy to enhance working together between students in a classroom and enhance social cohesion.

At the time of this study the Department of Basic Education introduced Curriculum Assessment Policy Statements (CAPS) as the official curriculum of South Africa. CAPS consequently has an influence on my teaching practice. We adhere to departmental policies and try to comply with curriculum delivery often to the detriment of the needs that learners might experience in the school, such as nation building and maintaining relationships that contribute to the total development of the learner. What further motivated me to address my classroom practice was that my teaching style was still very similar to the way my previous teachers taught me. I was still caught up in the traditional mode of

teaching and learning where the “teacher talks and the learner listens” There was no innovation that characterised my teaching practice. In an attempt to address the issues that concern me, I asked the following critical research questions in this mini-thesis:

- 1 How can cooperative learning be used in a Geography classroom to develop social cohesion amongst learners?
- 2 How can I improve my own teaching practice?

I would like to believe and set out to establish whether the cooperative classroom is different from the one in the traditional teaching environment; both the teacher and student adopt new roles. The teacher becomes a facilitator and the cooperative lessons imbue learners with confidence and enhance social relationships.

In Chapter One I give a background to the study. I describe the educational challenges that face South Africa and I set out to locate what I would regard as the problem in my teaching.

Chapter Two is my literature review. In this chapter, I give a detailed account of cooperative learning. Due to the limited scope of this study and the many facets of cooperative learning, I contend that as a researcher, I cannot deal with cooperative learning in its entirety.

In Chapter Three I focus on action research as the research methodology which I employed in this study. I give a brief historical perspective on the development of action research, define it, explain how it operates and give an account of how action research works.

Chapter Four and Five provide a description of the two action research projects that I undertook with my Grade 10 Geography classes. In these two chapters I give an account of my two action research learning projects.

Chapter six is the concluding chapter. I reflect on the research projects and try to map the future of cooperative learning as an educational strategy that could transform the classroom and ultimately contribute to nation building.

OPSOMMING

In hierdie mini- tesis dokumenteer ek twee aksienavorsingsprojekte wat ek as onderwyser- navorser in my Graad 10 Geografieklas uitgevoer het. Hierdie navorsing was 'n poging om my onderrigpraktyk as Geografie-onderwyser te verbeter om sosiale samehorigheid in my klaskamer te verbeter.

Hierdie mini-tesis het die volgende navorsingsvrae beantwoord: Hoe kan koöperatiewe leer in 'n Geografie klaskamer gebruik word om sosiale samehorigheid tussen leerders te verbeter en te bou? En hoe kan ek my eie onderrigpraktyk verbeter? Die studie het op koöperatiewe leer as onderrigstrategie en aksienavorsing as navorsingsmetodologie gefokus. Twee aksienavorsingsprojekte is binne die aksienavorsingsraamwerk voltooi en oor besin. Hierdie mini-tesis wat twee navorsingsprojekte insluit, is gebaseer, onderskryf en beïnvloed deur die kritiese teoretiese soos Darda(2007), Dewey (2008). Freire (1972), Habermas (1972), Giroux (1988), McNiff (2002, 2006, 2010) en Waghid (2011).

Deur te reflekteer op my onderrigpraktyk, het ek besef dat daar n probleem is in terme van hulpverlening aan leerders om hulle te help om positiewe sosiale verhoudings te promoveer en saam te werk in die klaskamer. In hierdie mini-tesis is ek egter van mening dat koöperatiewe leer die potensiaal het om sosiale samehorigheid en sosiale verhoudings te verbeter tussen leerders

Koöperatiewe leer beklemtoon samewerking as noodsaaklik tot die sukses van leerders en as gevolg daarvan is gevind dat koöperatiewe leer positiewe houdings tussen groepe in klaskamers suksesvol bevorder. Oor die afgelope jare was Suid-Afrikaanse onderwysers verplig om 'n meer leerdergerigte benadering te volg eerder as 'n onderwysergesentreerde benadering. Ek is van mening dat koöperatiewe leer is bevorderlik vir die verbetering van leerders se prestasie en die bevordering van sosiale verhoudinge tussen klasmaats.

Ek aanvaar dat my onderrigpraktyk sekere gebreke het en met aksienavorsing kan ek dit ondersoek en daaroor besin met die oog op die verbetering van my praktyk. In hierdie navorsing het ek gepoog om studente te ontwikkel om op 'n positiewe wyse met mekaar in wisselwerking te tree. Hierdie studie gebruik koöperatiewe leer as onderrigstrategie om samewerking tussen leerders in 'n klaskamer te verhoog en sosiale samehorigheid te bevorder.

Toe die studie onderneem is, het die Departement van Basiese Onderwys die Kurrikulum- en Assesseringsbeleidsverklaring (KABV) as die amptelike kurrikulum vir Suid-Afrika bekendgestel. KABV het 'n invloed op my onderrigpraktyk. Ons kom departementele beleide na en poog om aan kurrikulumaflewing te voldoen tot nadeel van die behoeftes wat leerders op skool mag ervaar, soos nasiebou en behoud van verhoudings, wat bydra tot die algehele ontwikkeling van die leerder. Besinning en introspeksie het daartoe gelei dat ek my klaskamerpraktyk krities ondersoek. Wat my verder gemotiveer het om my klaskamerpraktyk aan te spreek was dat my onderrig styl baie dieselfde was as die van my vorige onderwysers wat my onderrig het. Ek was vasgevang in die tradisionele manier van onderrig en leer waar die "onderwyser praat en die leerder luister"

My klaskamerpraktyk was dieselfde as die van my onderwysers. Die manier waarop ek onderrig, was dieselfde as wat my onderwysers gebruik het om my te onderrig. My onderrigstelsel is nie deur innovering gekenmerk nie. In 'n poging om die kwessies waaroor ek bekommerd was aan te spreek, is die volgende kritiese navorsings vrae gevra in hierdie mini-tesis:

- 1 Hoe kan koöperatiewe leer in 'n geografie klaskamer gebruik word om sosiale samehorigheid tussen leerders te ontwikkel?
- 2 Hoe kan ek my eie onderrigpraktyk verbeter?

Ek wil graag glo en vastel of die koöperatiewe klaskamer verskillend is van die tradisionele onderrig omgewing; beide die onderwyser en leerder neem verskillende rolle aan. Die onderwyser word 'n fasiliteerder in die leer proses. Die koöperatiewe lesse ontwikkel leerders met selfvertroue en verbeter sosiale verhoudinge.

In Hoofstuk Een gee ek die agtergrond tot die studie. Ek bespreek die opvoedkundige uitdagings wat Suid- Afrika in die gesig staar en wil graag vastel wat ek beskou as die probleem in my onderrig

Hoofstuk Twee is my literatuur studie. In die hoofstuk gee ek n gedetailleerde verslag van koöperatiewe leer. As gevolg van die beperkte omvang van die studie en die baie fasette van koöperatiewe leer is ek as navorser van mening dat ek nie koöperatiewe leer in sy totaliteit kan behandel nie

Hoofstuk Drie fokus op aksienavorsing as die navorsingsmetodologie wat in hierdie studie gebruik word. Ek gee ook n kort historiese perspektief van die ontwikkeling van aksienavorsing, definieer dit, verduidelik hoe dit opereer en gee n verslag van hoe aksie navorsing werk.

Hoofstuk Vier en Vyf gee n verduideliking van die twee aksienavorsingsprojekte wat ek met my Graad 10 klasse onderneem het. In hierdie twee hoofstukke doen ek verslag van my twee aksienavorsingprojekte

Hoofstuk Ses is die slot hoofstuk. Ek reflekteer op die aksienavorsingprojekte en probeer om die toekoms van koöperatiewe leer uit te stippel as n opvoedkundige strategie wat die klaskamer kan transformeer en n bydrae tot nasiebou kan maak.

ACKNOWLEDGEMENTS

I wish to express my sincere thanks and appreciation to the following:

- Our heavenly Father for the strength and perseverance to see this project through;
- My supervisor, Dr Esau in the Faculty of Education: Department of Curriculum Studies, without whose painstaking guidance and assistance this study would not have been a reality;
- My parents and my sisters who believe in me;
- My friend Eben, who always encourages me. My sincere appreciation and thanks;
- Amos Feni, thank you for your support;
- The Free -State Department of Education for allowing me do research in the school;
- The students who participate in this study;
- My beloved wife, Nelia and children (Bernelee, Banel and Neill), thank you that you understand my quest for deeper knowledge through my studies and for your unwavering support during this project. Your love, encouragement and support were invaluable;
- Salmarie and Corlitta Dyers, my sisters-in-law for their wonderful support when I attended sessions at Stellenbosch University;
- The Stellenbosch University library staff for their support and assistance;
- Huibre Lombard for helping with technical aspects of this thesis.

“Education and training are the most powerful weapons you can use to change the world” Nelson Mandela

DEDICATION

I dedicate this thesis to my family, my lovely wife Nelia and the children (Bernelee, Banel and Neill) for offering unconditional support during my studies. Thank you very much, I love you.

In memory of my late grandmother, **Sarah Oss**, who shape me into what I am today.

To all the children in Petrusville, who still experience social injustices and political inequality.

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LIST OF ABBREVIATIONS

ANC	African National Congress
AR	Action Research
CAPS	Curriculum, Assessment Policy Statements
CL	Cooperative Learning
DBE	Department of Basic Education
DHET	Department of Higher Education and Training
FET	Further Education and Training
FSDOE	Free State Department of Education
GET	General Education and Training
GIS	Geographical Information Systems
NCS	National Curriculum Statements
OBE	Outcomes Based Education
PGDE	Postgraduate Diploma in Education
SA	South Africa
SACP	South African Communist Party
SASA	South African School Act
SADTU	South African Democratic Teachers Union
SGB	School Governing Body
STAD	Student Team Achievement Division
TGT	Team Games Teams
UFS	University of the Free State
UNISA	University of South Africa
UWC	University of the Western Cape

CHAPTER 1

BACKGROUND TO THE STUDY

1.1 Introduction

Chapter One describes the educational challenges that face South- Africa today with special reference to social cohesion and social relationships in schools. The rationale and basis for an investigation into a Further Education and Training (FET) classroom is explained and reasons for presenting the work within an action research paradigm are made clear. In this mini-thesis I will describe two action research projects as a way of getting my students to work together in a cooperative way.

In this mini-thesis I give an account of my action research project, which was an investigation of, and an attempt to develop, a cooperative learning process in building social cohesion in my Further Education and Training classroom. In this project I focus specifically on cooperative learning as a strategy in critically addressing social relationships between students in a Grade 10 Geography classroom.

On reflecting on my teaching practice, I realised that my practice does not encourage students to work together. My teaching practice was as (Ntshingila-Khosa, 2001; Christie, 1993).describes it, learner passivity, rote learning and chalk – and- talk presentations.

Cooperative learning is a strategy that takes into account both students' academic and social outcomes. It develops positive relationships and helps to manage conflict, which means that cooperative classrooms are likely to be more harmonious and democratic than conventional classrooms. A democratic stance and effective approach to cooperative learning (CL) are crucial to building such a democratic class culture (Furgeson-Patrick, 2012).

An important idea that informed this research on cooperative learning came from social psychology and was based on “the most widely accepted theory of positive intergroup relations: Allport’s (1954) contact theory” (Slavin, 1985).

Co-operative learning is an educational technique which involves the learner in becoming co-responsible for his own learning process. Cooperative learning is described as an aspect of small group work, where heterogeneous groups of approximately five members each function interdependently of one another in order to attain a group aim (Nel, 1990).

In South-Africa, a country in a transformational phase of societal change, the challenge is to work together in a harmonious environment both as teachers and learners. This was recommended by the late President Nelson Mandela way back on National Reconciliation Day, 16 December 1995, when he said: “Reconciliation means working together to correct the legacy of the past injustices”.

This study was also conducted at a time when we were mourning the death of the Rector and Vice-Chancellor of the University of Stellenbosch, Professor Russell Botman, whose vision for this university was to make it a fully multi-cultural place; a home for everyone; a home where different cultures meet and work cooperatively. This he spelt out in his inaugural lecture on 11 April 2007, when he stated: “We can only feel satisfied that there is fair access when the daughter of the farm worker has the same future opportunities as the son of the farmer”.

It is this type of transformational agenda that inspired me to do this action research project on cooperative learning.

This action research project was undertaken at a previously disadvantaged school in the Free-State. My aim for this study was to use cooperative learning techniques in group context towards developing a cooperative learning process in building social cohesion in a Grade 10 Geography classroom. Cooperative learning is often promoted on the basis that it is inherently designed to enhance or improve social relationships in schools (Mckown, 2005). In South-Africa teachers and learners face the constraints of implementing the curriculum and assessment policy statements. The challenges remain for teachers and learners to cooperate in a critical way.

This chapter concludes with what Dewey, a proponent of progressive education, has to say about working together and cooperative learning. Dewey, one of the first proponents of progressive education, advocated in his *Democracy and Education* (1916) that classrooms should be democratic, cooperative microcosms that mirror larger society as a whole.

1.2 Purpose of the study

As a teacher-researcher my interest in cooperative learning is informed by the contribution of cooperative learning towards promoting working together in a group and managing the competitive activities in the classroom.

The primary purpose of the study is to improve my own practice and to build social cohesion in a Grade 10 Geography classroom in a school in the Free-State. I also want to understand and gain insight into how learners from different cultural groups in a classroom perceive each other's ideas and what can be done to improve their relationships.

The purpose of the action research is to do a qualitative investigation to find answers to the following questions

- What are the experiences with regard to relationships between teachers and learners, and between learners and learners in the classroom?
- How can cooperative learning enhance social cohesion in a Grade 10 classroom?
- How can I improve my own teaching practice?

1.3 From apartheid education to Curriculum Assessment and Policy Statements (CAPS)

Much has been written about the history of apartheid education in the post-apartheid era. During the apartheid era the intention of education was to maintain social separation. According to Soudien and Baxen (1997), the aim of education during this era was that its social philosophy was legitimising white supremacy and the complex system of racial and cultural ordering that evolved around this. Before 1994 the South-African education system was organised along racial lines based on the Christian National Education (CNE) ideology. CNE was based on what Enslin (1984) describes as Fundamental Pedagogics. Schooling during the apartheid period was thus segregated racially in terms of the people within the schools, where they were located and the way they were legislatively defined.

The cornerstone on which apartheid education was build was that the curricula were engineered for blacks to accept white supremacy. This was consistent with the views of the architect of apartheid, Hendrik Verwoerd, who suggested:

There is no place for the [Bantu] in the European community above the level of certain forms of labour. What is the use of teaching the Bantu child mathematics when it cannot use it in practice? (Clark, 2004)

Apartheid education perpetuated racial, social and class inequalities in South-Africa through the education system. At the time of apartheid there were movements that advocated for a curriculum that was outside the formal, government arena of curriculum making. That was known as “people’s education”. The struggle against apartheid was rooted in the local conditions of the society at the time. The struggle for democracy in South-Africa was supported by the international community. The impact of literature on South-African education was encapsulated in the work of Paulo Freire (1972) in *The Pedagogy of the Oppressed*. Freire is of the opinion that the oppressed cannot liberate themselves without a thorough understanding of power relations and the domination of divide and rule. Education activists in South Africa used the Freirean pedagogy for the politicisation of the oppressed. Kallaway (2002).

The apartheid regime was aware of the major influence that Freirean thinking had on the struggle for education and democracy in South-Africa. Subsequently it banned the book in the 1970s but failed to prevent the influence it had on the struggle for quality education and the Black Consciousness Movement activists, which operated in the black universities such as the University of the Western Cape.

The 1980s was a period where there was increasing black resistance to apartheid education. This was done to transform the South-African education system. The black resistance called for “People’s Education for People’s Power”. The African National Congress (ANC) set education as a critical element in the liberation process, driven by variants on its cry of ‘people’s education for people’s power’. In its Freedom Charter the ANC asserted that the aim of education is ‘to open the doors of learning and culture to all’ (African National Congress, 1994).

Since the times of apartheid education the curriculum has undergone a number of changes. During the period 1990-1997 we had a negotiated curriculum. The curriculum was in a transformational phase, where apartheid education was replaced with what was then known as People's Education. It was about empowering people at grassroots level. Teachers in South-Africa took a revolutionary stand against Bantu Education and defied it. This was the time when the notion of people's education for people power became an alternative pedagogy of liberation. Teachers refused to teach Bantu Education, which they considered as having been designed to capture the mentality of the African child by preparing him or her to live in a stratified and segregated society based on colour, ethnicity and tribal life.

The transition from apartheid education to the present education system in South-Africa has not been without problems. Debates on educational issues are always contentious because they involve many stakeholders such as politicians and communities on grassroots level. In the past South-African education reflected the fragmented society within which it was based and it hardly created conscientious, critical citizens (Msila, 2007).

The South-African Schools Act of 1996 (SASA) and the Constitution of the Republic of South-Africa set the foundation for a non-racial approach to education.

Consistent with South-Africa's new constitution, the new government abolished the existing racially-defined departments of education and established a single education system (Fiske & Ladd, 2004).

Since 1994 South-African education has undergone several curriculum reform initiatives that were focused on schools. The major reform was the introduction of outcomes-based education, which underpins curriculum 2005. According to Le Grange (n.d.), the change from a content-based interim core syllabus to an outcomes-based National Curriculum statement represented a major shift in approach to the curriculum.

The newly democratically elected government which was installed in 1994 inherited different racially defined education departments which catered for the needs of the different population groups in South-Africa, according to Harley and Wedekind (2004). From the different departments, we now only have two – the Department of Basic Education (DBE) and the Department for Higher Education and Training (DHET), which are distinguished by their focus areas. In the new education system where outcomes-based education is prescribed, educators were advised to make a paradigm shift with regard to their own teaching practices. According to Cloete (2005), the focus has shifted from the giving of knowledge to interaction, shared knowledge and a variety of communication and interactive skills. The newly introduced national curriculum, the Curriculum and Assessment Policy Statement (CAPS) is intended to serve a new political vision. However, even with the curriculum changes, outcomes-based education (OBE) remains as a broad framework for education and training in South-Africa.

In 1997 we saw the introduction of curriculum 2005 (outcomes-based education) to address the curriculum division of the past (apartheid education) which were based on according to racial segregation.

Soon after the implementation of C2005 teachers complained of frustration, disillusionment, poor training, the complexity of the language and design of the new curriculum, lack of support and the rushed introduction of the curriculum (Matoti, 2010; Jansen, 1999). This was an era where the entire education fraternity experienced complex curriculum change. Ongoing implementation challenges led to a review of the curriculum in 2000 and 2009. At the time of engaging in this action research project, a new national curriculum, called the Curriculum Policy and Assessment Statements (CAPS) was introduced in Grade 12.

According to the Department of Basic Education (DBE:2011), the two curricula namely the national curriculum statement for Grades R–9 and Grade 10–12, were combined into one single curriculum from 2012. These documents that become known as the National Curriculum Statements Grade R–12 comprised of the following:

- Curriculum and Assessment Policy Statements (CAPS) for all subjects;
- National policy pertaining to the promotion requirements;
- National protocol for assessment Grades R–12.

The national curriculum statements give expression to the knowledge, skills and values of learning in South African Schools. The national curriculum of South-Africa aims to ensure that children acquire and apply knowledge and skills in ways that are meaningful to their own lives; in this regard the curriculum promotes knowledge in the local context, while being sensitive to global imperatives, according to the national curriculum statement (DBE:2011).

According to the Department of Basic Education (Pinnock, 2011), CAPS is not a new curriculum, but an amendment of the National Curriculum Statement (NCS). It therefore still follows the same process and procedure as the NCS Grades R–12 (2002) (Pinnock, 2011). The CAPS is an adjustment to *what* we teach (curriculum) and not *how* we teach (teaching methods).

The curriculum assessment policy statement, however, is seen as a form of transformation. The Curriculum Assessment and Policy Statement sees education as a tool that could provide fertile ground for developing the South-African values enshrined in the Constitution. Democracy, social justice, non-racism, equality and reconciliation are among the fundamental values of the South-African education system (Msila, 2007).

This mini-thesis aims to explain and create a cooperative learning environment through my action research project at the school where I am teaching at, looking at cooperative learning (CL) to build social cohesion in a Grade 10 geography classroom. It is in this context that I engage in my transformative cooperative action research project in the post-apartheid and transformative phase of the education system.

1.4 Background to the study

In this mini-thesis I want to argue that my personal narrative is important in determining what sort of educator I am, and that my life story informs how I approach my life as a teacher.

As a South-African coming from a rural area, I experienced first-hand the discrimination of apartheid. I realise that cooperative learning is the future if we are to break down the shackles of the great divide of apartheid. When I start my teaching career I expected social relationships to be more integrated in the classroom; instead I found it was an extremely polarised space, as Nussey (2012) had described.

I was born in Crawford, Cape-Town, where my mother worked as a domestic worker during the 1970s. Both my parents were absent during my formative years and I grew up with my grandma, who taught me the importance of education. We stayed in a small house without electricity. She was a very humble person who valued education. I completed my primary schooling at Petrusville Primary school and went on to complete my secondary school training at Panorama Senior Secondary School in the Free-State. It was my high school experiences that made me aware of the injustices of apartheid and the racism directed against people of colour. I realised in order for me to help with the fight against apartheid I needed to educate myself to free my mind from apartheid propaganda.

During my high school years I decided to become a teacher. After completing Grade 12, I went to Perseverance College of Education and qualified with a diploma in education. During my student years at Perseverance College of Education I got involved in many student movements and participated in many protests actions.

To become a teacher was definitely not my first choice. My poor circumstances compelled me to take up teaching as a career. I intended to become a lawyer, but the lack of funding and the fact that the then House of Representatives (HoR) offered bursaries for teaching prompted me to pursue a career in education.

After my initial training as a teacher, I began my teaching career in 1996. I went on to teach in various schools in the Free-State province and the Western-Cape. I decide to further my studies in 2000 and obtained the Advanced Certificate in Education (UFS), B Ed (Hons) (UWC), the Masters Diploma in Education (UFS) and a Certificate in School Management from Unisa in 2011.

My inquisitive nature to gain deeper knowledge and to further my studies prompted me to undertake this study. My interest in alternative teaching methods developed when I did my PGDE at the University of the Free-State and also from my experience as a teacher in different schools.

As learners we were exposed to a few teaching strategies and poor teaching, and as a teacher I wanted to bring new teaching methods and traits to my classroom, which I thought would be more appropriate for contemporary teaching. I am of the opinion that the future of our children depends on the quality of education and teaching that take place in schools.

Educators today play an important role in the democratisation of our classrooms and give a voice to the voiceless. This is in direct contrast with the ideals of apartheid education, which expected of us to be passive students who were not encouraged to think critically and to ask critical questions.

In this cooperative action research project I intended to improve the working together of learners and educators. It provided me with a unique opportunity to reflect on my own teaching practice. As an action researcher and teacher researcher I looked forward to see how this project concerning the use of cooperative learning would improve relationships in my classroom.

1.5 Placing the project in context

This study moves towards developing a cooperative learning process in building social cohesion in a Grade 10 Geography classroom. This post-apartheid action research study is conducted in a rural school in the Xhariep district in the Free-State Department of Education (FSDOE). For many years this school catered only for coloured learners. This school was established under the auspices of the House of Representatives (HoR) as a primary school and later become a high school.

The school population consists mainly of Sesotho, Xhosa and Coloured learners. The FET section offers a parallel medium of instruction. Learners come mainly from the town and the surrounding farms. The parents of the school receive mainly social grants and some of the parents are labourers on the farms. It is a previously disadvantage community. The socio-economic situation of the community is in a critical state and more often impacts negatively on teaching and learning in the school. The school is a no -fee school (quintile 1) and support from the parents is minimal to non-existent.

When allocating funding to schools, the Department of Basic Education classifies schools into one of five categories called quintiles. Each quintile is meant to have 20 percent of schools from quintile 1 (the poorest of schools). The funding is R905 per learner in quintile 1 schools (*City Press*, 12 January 2014). Quintile scores are based on national census data for school catchment areas based on the income, level of unemployment and educational values of the residents. Quintiles range from 1 to 5, where quintile 1 means the poorest schools and quintile 5 the least poor. Poorer schools get a bigger subsidy per learner from the Department of Basic Education.

To augment the funding allocation received from the Free-State Department of Education, the school rely on the teachers and sub-committees of the school governing body(SGB) to raise funds. The observation that I have of this rural community is that they are simply waiting for the state to provide through social grants and poverty relief programmes and there is little initiative on their part.

There is evidence suggesting that social grants have contributed to the moderate alleviation of poverty and slight narrowing the income gap. Despite the solid economic growth of the last 15 years in the country, the unemployment rate in the Xhariep district remains stubbornly high (Pennington, 2014).

Because of the poverty that is rife in the Xhariep district, it is evident that the community feel marginalised, de-motivated and experiences a sense of low self-esteem. According to Klaasen (2013), the background against which rural schools function are evident of the following:

- Poverty;
- Teenage pregnancies;
- High levels of absenteeism of learners;
- Poor parent involvement;
- Low literacy levels of parents;
- Foetal alcohol syndrome (FAS).`

The circumstances associated with rural areas have a direct implication on learner performance. According to Klaasen (2013), there is a direct link between resources in the school and learner attainment. Well-resourced schools perform far better than under-resourced school. The problems that rural schools faced prior to 1994 and during the transition from apartheid to democracy are the same problems that they face almost 20 years into democracy.

The Department of Basic Education did its best in terms of reforms, but this does not absolve the administration from its responsibility of providing quality education to every South African child. The Free-State Department of Education tried to rectify the situation with limited resources. The perception still prevails that rural schools are the stepchild of the Department of Basic Education. Learners in rural areas continue to receive an education that condemns them to the underclass of South-African society.

This I believe is in total contrast with the National Development Plan, which states:

That education has an intrinsic and instrumental value in creating societies that are better able to respond to the challenges of the 21st century.

The readiness to tackle these challenges and to play a role in the development of education in South-Africa is defined in the vision 2030 of SADTU and the National Democratic Revolution (SACP, 2006). This vision is the contribution of SADTU to the NDR. Education is not, and never was, ideologically neutral.

1.6 Motivation for the research

Since the end of apartheid and with the coming of democracy in South-Africa, multicultural communities have come into existence, although in rural areas this was always a common feature. People from diverse groups co-existed and lived together amicably, but recently it has become more of a challenge. This is one of the challenges that confronted me. This has become evident in the school where I teach and also from the research (interviews and questionnaires) done amongst my colleagues at my school.

Teachers at my school when surveyed (see addendum H) about cooperative learning feel there is a need for learners to work together and admit that they do not incorporate

cooperative learning in their lessons. Teachers share the sentiment that there is a need for learners to work together and they also observed that the learners operate in a very uncooperative manner. It become clearer as I interact with my colleagues in the FET phase who seems to having difficulties with implementing cooperative learning in their teaching. As a teacher who wish to infuse cooperative learning in my classroom it concerns me. The values of cooperative learning are not naturally inherent, instead such values need to be cultivated amongst our learners. The responsibility to incorporate cooperative learning in the classroom to enhance empowerment and participation is not the responsibility of a selected few, but as teachers we should share this task as a common responsibility that binds our practice.

It is against this background that I am confident that the use of cooperative (CL) as an alternative teaching method can assist learners to develop and maintain sound intergroup relations. My motivation for this study stems from observing learners with poor social relationships and poor teaching strategies by teachers. I am involved in Geography teaching and received the best possible training from the Free-State Education Department (FSDOE), but I do not have the capacity to effectively facilitate the subject to promote good social relationships amongst learners in my class. The basis of this study is backed by my experience of Geography learners who:

- cannot work together in a team;
- are not exposed to other teaching strategies;
- do not have good social relationships.

This experience give rise to the important question. Can cooperative learning help learners from different groups to establish and maintain sound relationships?

1.7 Problem statement and demarcation of study

The history of a complex and unequal society such as South-Africa impacts negatively on social relationships amongst different learners from different cultural and social backgrounds. Apartheid South-Africa was characterised by a development path that resulted in inequality, poverty, inequity and many other social and environmental challenges, which rendered South-African society unsustainable (Teise, 2013).

This study is based on the action research approach and the first questions that arise are: What is my concern and what is my problem? (McNiff and Whitehead 2006). How can I improve my own classroom practice and how can I use cooperative learning as an alternative teaching strategy to build social cohesion amongst learners? My concern is that although the learners live in the same community and attend the same school, there are differences in terms of their social relationships and how they perceive each other. Several aspects affect social relationships amongst learners. They include:

- The environment where they come from;
- The culture of the learners;
- Communication between learners;

- Perceptions of the community;
- Your social stand in the community.

Cooperative learning is not a new concept and has been around at least since the early 1900. Cooperative learning is one of the most thoroughly researched strategies of recent times, according to Killen (2010).

The new South-African curriculum, the Curriculum, Assessment and Policy Statements (CAPS), gives prominence to group work and cooperative learning. The NCS Grades R-12 aims to produce learners who are able to work effectively as individuals as well as with other members of a team (DBE, 2011). Teachers frequently use cooperative learning as an alternative teaching strategy in the classroom. Research in the field of cooperative learning is reported in literature, which emphasises that it is important for the teacher to maintain an environment conducive to working in small groups and in teams.

Teaching geography in the FET phase is deemed important, as the field of geography focuses on the study of humans and the physical environment. With geography we can better understand our complex world (DBE: 2011). There are many branches of study in geography, e.g. physical and human geography.

The purpose of this research project was to look at cooperative learning as an alternative teaching strategy to explore the social relationships amongst learners in my class. This research is undertaken at a rural school in the Southern Free-State with Grade 10 learners from different backgrounds and ethnicity.

This research takes the form of action research in a Geography classroom. According to O'Brien(1998), "Action research is known by many names, including critical research, participatory research, collaborative inquiry, emancipatory research, action learning and contextual action research, but all are variations on a theme". Simply put action research is learning by doing with a view to improving a particular practice; a problem is identified in the process, something is done to improve the practice, the outcome is evaluated, and if is not satisfactory, further attempts are made to rectify the problem.

Geographically the study is located in the Xhariep district, which is situated in the Free State province in South-Africa. Xhariep district was chosen because the researcher resides in the district and has easy access to the learners and teachers at the school where the research is conducted, which made the study economically viable.

This study is limited to trying to build social cohesion through a cooperative learning process in a Grade 10 Geography classroom. This study focuses on Grade 10 Geography learners and teachers in a Free-State Combined school. The area of interest is in the Further Education and Training band of the school (FET). The study is undertaken in the Department of Curriculum Studies at Stellenbosch University. As stated, this study will be conducted in the Free-State province. The Free-State is one of the nine provinces in South Africa. The province consists of five education districts (see Addendum): Motheo, Xhariep, Fezile Dabi, Lejweleputswa and Thabo Mofutsanyane.

1.8 Theoretical framework

This study is located within the sphere of critical theory. An exposition of critical theory is required to conceptualise the way in which the research will be informed by this theoretical orientation (Teise, 2013). My preference for using this critical methodology is informed by the belief that education is an ideologically formed historical process (Carr & Kemmis, 1986).

This study uses as its starting point critical theory, which allows for reflective assessment and critique. I shall explain in this mini-thesis why critical theory is an appropriate paradigm for this research. Critical theory improves the understanding of society by including social sciences such as Geography and changing society as a whole. Critical theory advocates that there are no objective answers, but a wide variety of subjective answers, because of the diversity of backgrounds of the learners in this study. This research paradigm is also referred to as hermeneutics (Mertens, 1998). This thesis draws largely on Habermas's conceptualisation of critical theory.

The ideas of Habermas had a major impact on education. According to him, education should be looked at and considered in human perspectives. By looking at human interests, one can gain understanding and knowledge about humans. Critical pedagogy is a term that is often used by critical theorists. Critical theorists view education as a potential means of oppression, where learners are expected to accept power and authority without questioning the powers structures. A classic example of authoritarian and oppressive education is apartheid education, where learners were indoctrinated to become followers of the apartheid ideology. Critical theory is deeply against any form of domination.

I contend that critical theory will help educators and action researchers to make critical judgments about human behaviour with the sole aim of improving their situations. Waghid (2003) is of the opinion that educational transformation can only be genuine if it aims at improving dysfunctional schooling and establishing opportunities for role players to participate in the process of liberating themselves and enhancing their educational situation. He further notes that in order to bring enlightenment and emancipation, the following need to be done:

- Using and creating conditions for self reflective critique;
- Replacing distorted education policies;
- Discouraging indoctrination;
- Decentralising administrative needs and institutions;
- Freeing educational institutions from bureaucratic interests;
- Re-theorising the roles of egocentric members;
- Producing and reproducing more rational and informed education policy rules.

It is my contention that cooperative learning has an empowering and emancipatory agenda by working together in small groups to attain a shared outcome and to enhance social cohesion. This can contribute towards the transformation of schools and classrooms as well as enhancing tolerance. Hence this mini-thesis will be framed according to the premises of critical theory as it is geared towards bringing about change in the practices of the researcher and the participants. In other words, critical theory is more orientated

towards realising opportunities or transformation away from distorted practices from the past.

1.8.1 Why Critical Theory?

Using critical theory as a framework for this research derives from my contention that my practice as a teacher has certain defects that impede the creation of a better social order for my learners in a Geography classroom. By using critical theory and drawing on its emancipatory nature, such defects can be identified, questioned and reflected upon. Critical theory enhances a critical consciousness. Furthermore, I am of the opinion that using critical theory as a theoretical framework for this mini-thesis will provide me with the opportunity to reflect on my practice as a teacher and give insight into what action need to be taken to improve my practice. Since critical theory depends on the critical process of self-reflection and the fostering of a critical reflection on my teaching practice.

The focus of this research project is on the effects of a cooperative learning process in building social cohesion in a Grade 10 Geography classroom. For discussion of the theoretical framework, I will use cooperative learning as a point of departure. In my discussion of cooperative learning I will draw on the work of Johnson and Johnson (1994) and Slavin (1990), where I look at the conceptualising of cooperative learning and the five basic elements of cooperative learning that need to be present for small group work to be considered truly cooperative learning:

- There must be positive interdependence;
- There must be ongoing, direct interaction;
- There must be individual accountability;
- The learners must use appropriate interpersonal skills;
- Group members must be reflective learners (Killen, 2010).

Cooperative learning involves students working together as equals to accomplish something of importance according to Slavin (1990). Brombacher (1994), a South-African proponent of cooperative learning, suggests that cooperative learning is working together and being responsible for both your own learning and that of others. Cooperative learning is a valid approach to teaching and learning that addresses and caters for the most fundamental cognitive and social needs of the learner.

On the basis of the literature, I would suggest that it is an alternative teaching method that means cooperation of students who work together in small groups to achieve a common goal. The subjects for this research project come from the Grade 10 classes in the FET band at my school. The nature of cooperative learning and the way it is presented in my school together with the implementation of the Curriculum Assessment and Policy Statement in schools has afford me the opportunity to use cooperative learning as a vehicle to improve relationships in my classroom.

The nature of social relationships amongst learners in a rural school becomes the point of focus in this study. Allport (1954) in *The Nature of Prejudice* draws attention to the importance of interracial contact. Ever since 1954 in the case between Brown and the

Board of Education, it has been assumed that the desegregation of schools would improve relations between learners from different ethnic backgrounds. Slavin (1984) suggests that cooperative learning allows for wider acceptance for other races on the premises outlined by Allport (1954). Critical theory not only explains social cohesion and cooperative learning, but is also responsible for liberating the attitudes of learners towards becoming more tolerant and emancipated. It is my contention that critical learning and cooperative learning should serve as builders of social cohesion and transformers of classrooms.

1.9 Research design and methodology

Methodology can be referred to as a generic term that includes general logic and theoretical perspectives for a research project, according to Bogdan and Biklen (2003).

This study makes use of action research. I find it necessary to work with a research methodology that will enable me to critically investigate my own teaching practice. Instead of dealing with a more theoretical research design, I prefer an action research methodology. It is my opinion that action research will enable me to address my concerns about my practice, but with which I can exhibit to make a change (Ferrance, 2000). More information is given in Chapter Three about this methodology. In my research project I agree with what McNiff (2002) has to say about action research. Action research helps the researcher to reflect on his/her practice with the aim of improving that practice and visualising what needs to be done.

1.10 Research question

The following research questions were formulated for the purpose of conducting this research to inform the design of a framework for the development of cooperative learning in a Geography classroom to build social cohesion. In order to realise the objectives of the research, the following research questions informed and guided the research.

- How can cooperative learning be used in a Geography classroom to build social cohesion amongst learners?
- How can I improve my own teaching practice?

1.11 Selection of participants

In educational research one of the most important aspects that needs to be attended to very carefully is the selection of participants for the research project. Morrison (in Cohen, Manion & Morrison, 2007) noted that the suitability of the methodology and the instrumentation that is being used in an action research project are not the only factors that the researcher needs to attend to, but also the appropriateness of the selection of the participants for the study.

The participants for this action research project were selected purposefully. Patton (in Teise, 2013) posits that the logic of purposive selection lies in selecting information-rich cases for the study from which one can learn a great deal about issues of central importance to the purpose of the research.

The school where I taught Geography and undertook my research had two Grade 10 classes of between 30 and 40 learners in each class. One of the classes consisted of both English and Afrikaans learners. For the purpose of the current research, and in order to secure sufficient contact time with the researched class, I selected one Grade 10 class, consisting of 32 learners of mixed races, as my sample. The specific class was chosen because, since the beginning of that year the learners in that class had shown that they would be more likely to be the more cooperative group. In addition to that, questionnaires were distributed to educators teaching in the FET phase at the school. Data gathered from the teachers in the FET phase also provide an account of the use of cooperative learning in the phase. It is also imperative to note that the selected teachers represent the FET phase and responses from these respondents are not representative of the entire school.

1.12 Method of data collection

To collect data the researcher made use of a qualitative methodology to collect and analyse data. To increase the level of validity different data resources can be used. They are focus group interviews, questionnaires, reflections of the researcher, journal entries and video recordings.

Ferrance (2000) explains that in action research studies, multiple sources are used to better understand what is happening in the classroom and that a number of vehicles are available for the collection of data. The aim of various forms of data collection is to generate evidence to help support whether or not a person is developing his/her own learning to influence others in an educational way (Whitehead and McNiff, 2010). Lessons in four cycles of spirals of action research were used to collect data. The four cyclic spirals include planning, action, observation and reflection. The following diagram is used to explain the cyclic nature of my research methodology.

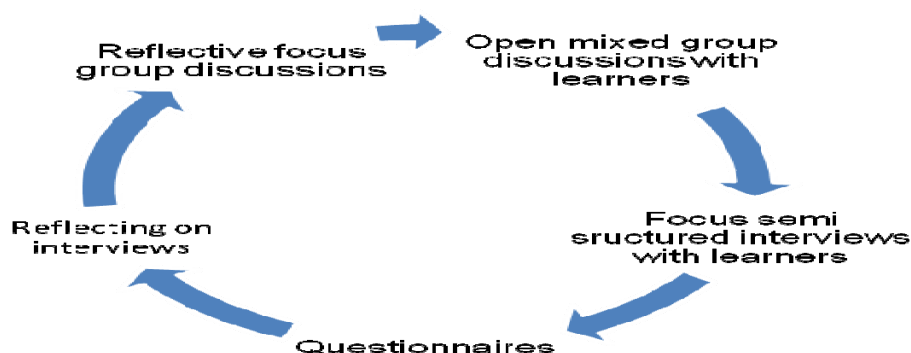


Figure 1.1 Data-collection plan

1.13 Unpacking terminology

I want to introduce three pedagogical concepts that are used in this mini-thesis:

Cooperative learning;

Action research and Social cohesion.

I will explain the way in which I use these pedagogical terms in some detail in the next chapters. But I thought it might be helpful to the reader if I provide some clarification at this point of my understanding of these three pedagogical concepts. Cooperative learning entails a set of teaching strategies used to help learners meet specific learning and interpersonal goals in highly structured groups (Eggen & Kauchak 1997).

Action research is a way of investigating your practice in order to improve it. Klaasen (2013) cites Banegas, who suggests that action research is an investigation that is done *by or through members* of an organisation but never on them; in the context of the school it can be described as research that is carried out by a teacher for teachers.

Social cohesion, as a descriptive term refers to the extent to which a society is coherent, united and functional, providing an environment within which its citizens can flourish.

1.14 Reasons for engaging in action research

On a personal level, opting for action research was my choice because it afforded me the opportunity to engage in research in my school and to reflect on and improve my own practice through the spiral processes of action research (planning, action, observation and reflection). It is also a systematic process for interpreting and evaluating one's actions with the goal of improving the practice.

As a teacher researcher, my interest in an action research project was stimulated by the kind of cyclical research design usually associated with it. This emphasises the point that my research is a "process" and not an event. It leaves the door open for further inputs, scrutiny, improvement and further research. This view is confirmed by Kemmis and McTaggart (1982):

- Develop a plan of action to improve what is already happening;
- Act to implement the plan;
- Observe the effects of action in the context of what occurs.

An action research project possesses features that make it an attractive research method for me as a teacher researcher wanting to undertake an investigation within my own classroom in order to improve my own teaching practice.

Through action research I want to create a democratic space in which learners can participate through being active participants and not idle or passive spectators. The action research project is focused on the transformation of the current circumstances where the participants become part of the solution. Engaging in action research was an attempt to inculcate critical inquiry and reflection on theory and practice amongst Grade 10 learners by exposing them to emancipatory action research in a cooperative action research project.

Boog (2003) believes that action research was intended from the outset to be emancipatory. My intention was not merely to expose my learner's to action research, but

this project was intended to stimulate and encourage them to become more critical, imaginative and argumentative learners.

As a teacher wanting to reflect critically on my own practice, I felt compelled to engage in action research whereby I could understand and change my own practice. I am aware that action research is a continuous process and it can provide a powerful tool to improve my classroom practice.

I seek to promote a voice for the voiceless learners by involving them in the action research project to make their voices heard in such a way that they experience a sense of equality. In Chapter Three I will further unpack the definitions and give a broader explanation of action research.

1.15 Brief chapter overview

The introductory chapter gives an orientation to this action research project. Chapter One includes the purpose of the study, discussion of apartheid education, background to the study, placing the project in context, the motivation for the study, problem statement and demarcation of the study, the theoretical framework, research design, research questions, selection of participants, data-collection methods, unpacking of terminology and reasons for engaging in action research.

Chapter Two will explore the status of cooperative learning as teaching strategy and this will be done through a discussion of sources relating to cooperative learning. It also seeks to give an overview of the existing body of literature on cooperative learning.

Chapter Three provides a detailed discussion of the action research approach that was adopted as the research methodology which is employed in this study. Here, I give a brief historical perspective on the development of action research, I define it, explain how it operates, and give an account of how action research works

Chapter Four provides an overview of my first action research project. It give the reader an account of the interaction that took place. In this chapter I report my first action research project and my interaction with the learners. I also share valuable lessons learned and utilize the opportunity I had to reflect on my first action research project.

Chapter Five gives an account of my second action research project, which is a continuation of my first action research project in which I attempted to use cooperative activities as a means to build social cohesion in my Grade 10 Geography classroom. On reflecting on my first action research project I realised that social cohesion cannot possibly be achieved overnight. It is a process that one needs to aspire towards.

Chapter Six contains the conclusion and recommendations on the basis of the findings of the preceding chapters. It contains the recommendations on advancing cooperative learning. The recommendations are based on the responses from the teachers and the findings of the two action research projects. The appendices contain instruments that were used in this research.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

In Chapter One I explained that I realised that my practice as a teacher was one in which the learners sit passively and do not work cooperatively in the classroom. I also tried to place the research project into context and explain why I use action research as a research methodology. A more detailed account of action research is given in Chapter Three. I gave a historical account of apartheid education in South-Africa so that the reader can understand where we come from as a nation.

This chapter aims to give an overview of existing knowledge in the literature on cooperative learning and how it can be used in the classroom as an alternative teaching strategy. Because of the limited scope of this study and the many facets of cooperative learning, the researcher cannot deal with cooperative learning in its entirety. This research will give an account of the different models of cooperative learning and as such will focus on the method of cooperative learning. The literature review will also focus on exploring what previous findings reveal about cooperative learning. According to Killen (2010), cooperative learning is more than mere group work where learners sit side-by-side at the same table and do their individual assignments. This type of group work will not yield the same results as cooperative learning.

Cooperative learning places certain demands on the teaching and learning process (Johnson & Johnson 2010; Parveen et al., 2011; Smith, 2000). Cooperative learning taking place only if these requirements are met. In addition to that, Tsay and Brady (2010) contend that cooperative learning is a form of active learning. Active learning can be defined as “anything that students are doing and thinking about (Onwuegbuzie et al., 2009).

2.2 Definitions of cooperative learning

Various definitions of what cooperative learning (CL) entails are found in the literature. Cooperative learning is viewed as a strategy where learners learn to work in a cooperative way to attain a collective outcome. Killen (2010) defines cooperative learning as an instructional technique in which learners work together in a small group to help each other to achieve a common goal.

Johnson and Johnson (1984) define cooperative learning as a relationship in a group of students that requires positive interdependence, individual accountability, interpersonal skills and face-to-face promotive interaction and processing.

According to Van der Horst and McDonald (1997), cooperative learning is not the consequence of any single stream of educational thought. Slavin (1987) defines

cooperative learning as: “A set of instructional methods in which students work in small, mix ability groups”.

Action research is a form of investigation is designed for the use by teachers to attempt to solve problems and improve professional practice in their own classrooms. It involves systematic observations and data collection, which can be then used by the practitioner-researcher in reflection, decision-making and the development of more effective classroom strategies (Parsons and Brown, 2002).

In South-Africa the idea of cooperative learning was given prominence by Brombacher, who is a proponent of cooperative learning. Brombacher (1994) defines cooperative learning as follows:

Cooperative learning involves learners working together and being responsible for their own and each other learning. Cooperative learning is a valid approach to teaching and learning that addresses and caters for the most fundamental cognitive and social needs of the learner.

2.3 Historical development of cooperative learning

According to Van Wyk (1997), cooperative learning rests on the philosophy of John Dewey (1961) and his belief that democracy in schools must be promoted in order to develop good citizenship amongst children. Slavin (1987) started researching the application of cooperative learning in the classroom as early as 1970.

Cooperative learning has been around for a very long time. The strategy of cooperative learning was developed in the early 1900s by educationists such as John Dewey, Kurt Lewin, Jean Piaget and Lev Vygotsky. Three theoretical perspectives guided research on cooperative learning: social interdependence, cognitive development and behavioural social perspective.

The strategy of cooperative learning was developed as a means to reduce competition in American schools. The Roman philosopher Seneca advocated for cooperative learning through statements such as "Qui Docet Discet" (When you teach, you learn twice). This is consistent with what the Bible says about cooperation:

Two are better than one, because they have a good reward for toil.
For if they fall, one will lift up his fellow; but woe to him who is alone
when he falls and has not another to lift him up ... And though a
man might prevail against one who is alone, two will withstand him.
A threefold cord is not quickly broken. (Ecclesiastes 4; 9-12).

Working cooperatively and having the chance to give your opinion boosts your confidence and motivates you to work even harder. The contemporary cooperative movement dates back to the early 1900s. Research in the field during the 1950s focused on the effects of group coherence.

In the 1970s the focus shifted more to the interpersonal relationships amongst different ethnic groups. During the 1980s, according to Van Wyk (1987), cooperative research was characterised by adoption of the models of Slavin (1983) and David and Roger Johnson (1987). During the 1990 the Johnsons applied their research to cooperative learning to the classroom.

In the South-African context during the reconstruction process of education, cooperative learning as an alternative teaching strategy was an important aspect in transforming the classroom and classroom practices to include approaches to learning and teaching which are learner-centred and non-authoritarian, and encourage the active participation of students in the learning process(ANC 1994).

Cooperative learning has been around a long time. It will probably never go away (Johnson and Johnson, 1994).

2.4 Towards an understanding of cooperative learning?

According to Teise (2013), various definitions of what cooperative learning entails are found in the literature. Cooperative learning can be seen as a strategy where learners work cooperatively to attain common goals. Cooperative learning is more than just mere group work where learners work in groups – this must not be mistaken for cooperative learning. There needs to be an accepted common goal on which the group will be rewarded for their efforts. In the same way a group of learners who have been assigned to do a report, but only one learner does all the work and the others go along for a free ride, is not a cooperative group.

A cooperative group has a sense of individual accountability, which means that all the learners need to understand the work. In a cooperative learning situation, interaction is characterised by positive goal interdependence with individual accountability. Positive goal interdependence requires acceptance by a group that they “*sink or swim*” together (Johnson and Johnson, 1997). Brombacher (1995) states that the notion of cooperative learning comprises more than just group work.

According to Slavin (1990), quality is an important element of cooperative learning. The teaching and learning processes are guided by the principles of cooperative learning such as: interdependence; individual accountability; interpersonal skills; face-to-face interaction, group processing skills and equal participation (Johnson & Johnson, 2010).

Cooperative learning can be used in the South-African education system to transform society; The South-African education system is committed to the principle of democratisation to enhance sustainable relationships amongst different learners. The NCS aims to develop learners who can work together cooperatively and as members of a team (DBE: 2011).

For small groups to be considered cooperative, Johnson and Johnson (1994) argue that there must be five basic elements present. According to Van Wyk (2007:231), cooperative learning involves much more than regular group work: “Cooperation is much more than

physically associating with other students, discussing material with them, helping them, or sharing knowledge with them". These elements are all important for cooperative learning, but Johnson et al. (1994) identify five basic elements that should be present before cooperative learning groups can truly function cooperatively: positive interdependence; direct interaction; individual accountability; interpersonal skills; and group members who are reflective learners.

I therefore argue that cooperative learning has a transformative role to play in post-apartheid schools. This notion frames my research about moving towards a cooperative learning process in building social cohesion in my Geography classroom.

2.4.1 Positive interdependence

According to Gawe (2004), there is a need for learners to recognise and value their dependence upon one another. Central to cooperative learning is the positive interdependence amongst team members. Learners function in a group to achieve specific goals. In a cooperative setting learners are positively interdependent on one another. Learners realise that they need one another for the learning process. Johnson (1994) is of the opinion that the essence of cooperative learning among learners is that they each accept that they cannot be successful unless their partners are successful. Learners must feel they need each other in order to complete the group's task.

2.4.2 Direct interaction

In direct interaction learners help one another to learn. They must discuss the task and summarise it and exchange ideas. They must divide the work amongst themselves and interact with one another.

2.4.3 Individual accountability

Individual accountability occurs when the learners take responsibility for themselves.

Each learner is responsible for a part of the learning process. The team is responsible for the success of each of its members and each learner is responsible for the team by demonstrating his or her understanding of the material. Teams succeed when:

- Every learner has learned the material;
- Every member has helped to complete the task;
- Teachers assess the individual learning of the group frequently.

2.4.4 Interpersonal skills

According Van Wyk (2007), the teacher cannot expect learners to work together effectively as a group if they do not possess the necessary social skills. The fact that the teacher purposefully structures a cooperative learning situation is no guarantee that cooperative learning process will take place effectively. In order to work cooperatively, the learners need to demonstrate the following skills:

- Communication skills;

- Leadership skills;
- Decision-making skills;
- Conflict management skills;
- Listening skills.

2.4.5 Group members must be reflective learners

Each group, according to Johnson (1994), must analyse the outcomes it achieves and assess how well the group functions, so that the participants become reflective learners.

2.5 Cooperative learning models

There are many models of cooperative learning, commonly referred to as approaches to cooperative learning, but because of the limited scope of this study, the focus will be on the following models: Team-Games-Teams (TGT), Student Teams Achievement Divisions (STAD), Jigsaw, and Peer Tutoring. The approaches discussed here all contain elements of members working in a team.

2.5.1 Team- Games-Teams (TGT)

Teams-Games-Teams in its original form, according to Slavin and De Vries (1978) was Slavin's version of cooperative learning. This technique of cooperative learning is an effective teaching strategy that is frequently used . A team game tournament has elements very similar to those of STAD. In TGT the learners are matched in groups of 4 to 5 with equal ability, gender and level of academic performance. The learners play academic games to master material. Learners compete against the members of other teams.

Winners in the different teams earn points for their respective teams. According to Killen (2010), high academic achievers compete against high academic achievers and low achievers compete against low academic achievers. Every team has an equal chance of success. The games are played on a weekly basis with members of other teams. According to De Vries, Slavin, Fennessey, Edwards and Lombardo (1980, as cited in Abrami et al., 1995), TGT engages the interest of students who might be bored by the material.

2.5.2 Student Team Achievement Divisions (STAD)

Student Team Achievement Division (STAD) was developed by Robert Slavin. Students are divided into heterogeneous groups comprising four members that are mixed in performance, sex, ethnicity and level of achievement. The teacher presents a lesson and learners work in their respective groups and make sure that all the team members master the material. The learners take individual tests on the material at which they may not help their fellow team members. Student's scores are compared with their past records. The scores are aggregated and points are awarded to form team scores. The team with the highest scores are declared the winners in class (Slavin, 1983). It is a technique that is easy to use and can be use over a five-day cycle.

2.5.3 Jigsaw

Jigsaw was developed by Elliot Aroson (1978). The name captures the essence of this cooperative learning strategy. In this approach learners are expected to work in six-member teams on material of a particular topic. Then the different teams present their information. Members from different teams with the same topic meet in “expert” groups to study and help each other learn the topic. The students then return to their home teams and teach others what they have learned.

2.5.4 Peer Tutoring

Hannekom and Nel (1991, as cited by Van Wyk, 2007) suggests that the term peer tutoring is synonymous with concepts such as cross-age tutoring and same-age tutoring. The researcher calls this cross-pollination tutoring. It is sometimes referred to as peer-supported tutoring. In a cooperative learning approach team members of a team rely heavily on fellow team members to achieve a common goal and increase learner achievement. It can be accepted that peer tutoring is an essential element of cooperative learning.

2.6 Cooperative learning improves learner performance

Cooperative learning aims at improving student performance or increasing academic achievement. Learners are rewarded in cooperative learning and because of the incentivised nature of cooperative learning, it is associated with achievement. Parveen, Mahmood, Mahmood and Arif (2011) researched the effect of cooperative learning on achievement on 8th grade students in Social Studies.

The research found that the cooperative learning model was not effective and that there was no difference in academic performance. However, empirical evidence suggests that students studying cooperatively reap significant benefits in terms of their learning performance. To reinforce the notion that cooperative learning improves learner performance, Christison's (1990) research found that the application of cooperative learning as a teaching strategy has a positive effect on learner performance. It can be concluded that cooperative learning benefit learners in various ways, including improving learner's achievement and enhancing relationships.

2.7 Cooperative learning improves race relations

An effect of cooperative learning is that there is a general wider acceptance of learners from other races, ethnicity and cultural groups. According to a leading sociologist Gordon Allport, mere physical contact among different racial or ethnic groups is not sufficient to break down the barriers of racial prejudice and stereotyping. Cooperative learning as a teaching strategy presents learners from different backgrounds with an opportunity to work interdependently on common tasks, and through the use of cooperative learning learners learn to appreciate each other. Allport (1954) tries to enhance intergroup relations by encourage groups to make contact that would reduce prejudice, provided this is done under certain conditions. The group members should work together:

- Towards a common goal;
- With independent roles;
- With equal status;
- In the context of policies which endorse contact.

The essentials of the contact theory may be outlined as follows. Improving social relations among learners increasingly becomes the priority of the teachers. Violence, bullying and victimisation become common features in the schools. More often schools become the place where scores are settled. Schools in South-Africa have become more diverse than they were two decades ago. Diversity should be seen in a positive way and teachers and learners should embrace our diversity rather than see it as a problem that needs to be solved. The Free-State Department of Education (FSDOE) must capacitate teachers and learners to foster positive social relationships and build social cohesion among learners. An innovative way to achieve this is through cooperative learning.

2.8 Accept responsibility for your own learning

One of the ways in which learners can become directly involved in their own learning process in the classroom is through the introduction of cooperative learning, which promotes participation. Learners learn when they become involved in cooperative activities and will accept responsibility for their own learning process.

Cooperative learning gives learners the opportunity to engage in discussions and take responsibility for their own learning. Cooperative learning focuses on interdependent learning that encourages lifelong learning. It contributes to a collaborative synergy where cooperation is valued in the classroom and the benefit of learning is valued. When the cooperative approach is implemented in a formal educational setting, learners assume greater responsibility for their own learning.

Cooperative learning may be particularly valuable for promoting learner's academic achievement, social relationships, interpersonal and communication skills. Barnes (1985) is of the opinion that learners who are subjected to rigid and formal education methods are more likely to be unsuccessful in their studies instead of developing effective expression abilities. He emphasises the importance of other facilitating skills such as group work, which would enable the learner to accept greater responsibility for his/her own learning process.

2.9 Advantages of cooperative learning

Cooperative learning is a teaching strategy that can be used in a variety of subjects and at all levels of education. According to Tejeda (2002), cooperative learning has been shown to have a positive effect on student learning when compared to individual or competitive learning. Cooperative learning has the potential to produce a level of ability and engagement that other forms of learning cannot. Killen (2010) suggests that cooperative learning helps students to learn respect for one another's strengths and limitations, and to accept these differences. This is very important in culturally diverse classrooms and in

classrooms of learners with disabilities. Because cooperative learning fosters positive interdependence among learners, it produces cross racial and cross-cultural friendships.

Kagan (1999) concluded that cooperative learning produces academic achievement over all content areas. Consistent with that, he further concluded that another advantage of cooperative learning is that there is an increasing cross-race relationships and mutual understanding between learners with diverse backgrounds. Positive interdependence is developed through cooperative learning, where the learner experience a sense of success Spady (1998).

2.10 Disadvantages of cooperative learning

While cooperative learning has its benefits, there are also disadvantages to this teaching approach that are present in almost every group work activity.

Based on what is presented in the literature, the advantages of cooperative learning far outweigh the disadvantages of cooperative learning. In groups of mixed students. Low-achieving students become more passive and do not focus on the task. Depending on individual motivation, interest in a particular subject will determine how well they learn. A further disadvantage is that higher-ability students will not be exposed to challenges. Below are a number of comments made by my colleagues about cooperative learning when we informally discussed the disadvantages of cooperative learning:

Some learners learn at different speeds and would take longer to understand and absorb the material.

Balance of power – not all the learners engaging in cooperative learning have an equal voice and this may lead to someone trying to take over the group.

Quiet learners may not feel comfortable. Some learners are shy and reserved and feel strange when working in a group.

Clashing personalities – no matter how hard they try, some learners just don't get along with others.

One last problem of cooperative learning that my colleagues alluded to, is nothing gets done, because the learners are talking about everything but what they are supposed to be doing.

2.11 Limitations of using cooperative learning

- Cooperative learning does not work for all lessons.
- Working in cooperative groups may lead to high noise levels in class that make the teacher uncomfortable and doubt his or her ability to maintain order and maintain discipline in the class.
- The principal may not like the high noise levels in the school.

- Some learners do not like to work in groups and the teacher must ensure that individual accountability is acknowledged to avoid one learner doing all the work.
- Learning to facilitate cooperative learning expertly in class requires extensive training on cooperative processes.
- It takes an experienced teacher 2 to 3 years to use cooperative techniques routinely in class.

2.12 Developing and learning life skills

Learners will learn valuable and important life skills in a cooperative learning situation. To develop and empower learners in life skills as a pre-requisite for cooperative learning is the task of the teacher. Establishing the proper environment for cooperative learning is important; teachers must encourage learners to develop their own classroom management. The term 'life skills' refers to the skills that learners employ in managing and living a better quality of life. The most important life skill is the ability to learn. By developing new skills, learners increase their understanding of the world around them to equip them to live a productive and meaningful life. According to Hanekom and Nel (1991), the following are life skills:

- Developing life skills;
- Creating and maintaining a climate of trust;
- Communication skills.

Learners are on a journey to independence and to live independently teachers need to teach them essential life skills. Developing good life skills is the basis of working cooperatively in class.

2.13 Views of cooperative learning

Cooperative learning is a teaching strategy which aims to organise classroom activities into academic and social learning experiences. The term *cooperative learning* (CL) refers to students working in teams on an assignment or project under conditions in which certain criteria are satisfied, including that the team members be held individually accountable for the complete content of the assignment or project (Killen, 2010).

According to Johnson and Johnson (1989), cooperative learning (CL) is instruction that involves students working in teams to accomplish common goals. They view cooperative learning as:

a relationship in a group of students that requires positive interdependence, individual accountability interpersonal skills, face-to-face interaction and processing (reflecting on how well the team is functioning and how to even function better).

Slavin (1990) adds the element of equality as an imperative when defining cooperative learning as a social method which involves students working together *as equals* to accomplish something of importance to all.

Tsay and Brady (2010) define cooperative learning as active learning.

Johnson et al. (1994) define cooperation as the ability to work together to achieve a common goal.

Slavin (1994) is of the opinion that cooperative learning is a didactic strategy whereby a variety of learning activities are used to improve the understanding of certain material that is being taught and also helping other group members to learn.

A South-African proponent of cooperative learning, Brombacher (1995), states that cooperative learning comprises more than just group work.

In the researcher's opinion, cooperative learning is a way that teachers can teach in the classroom where learners are grouped together and work as a team to understand the content in the same way.

2.14 The role of learner and teacher in a cooperative learning process

The teacher's role changes from standing in the front of the classroom doing most of the work and all of the talking to being a facilitator of learner learning, monitoring and collecting data on learner performance, as well as intervening when the group needs assistance in doing the task or learning to work together more effectively .

The researcher contends that the teacher is fundamentally the most important person in the classroom. Successful implementation of cooperative learning requires deep conceptual understanding of the process by the teacher. Cooperative learning involves significant changes in the role of the classroom teacher.

What hampers the academic achievement of learners is that teachers in the past taught all learners using the same teaching strategy. When cooperative learning is applied in the classroom, the role of the teacher is not to convey information to the learners but to plan accordingly, manage and monitor the learning environment so that learners can engage in meaningful collaboration and engage productively in learning. Vermette (1995) makes the following eight suggestions for using cooperative learning successfully in senior secondary schools:

- Start with short activities;
- Make sure every activity has a clear focus;
- Make each learner accountable;
- Monitor the groups carefully;
- Create teams as mixtures of strengths;
- Use grades wisely;
- Use teams everyday if possible;

- Leave the teams intact for extended periods.

Suffice to say that the role of the teacher in a cooperative learning process is important and valuable. Teachers must cultivate cooperative learning in their classes. It is difficult to break the routine of traditional teaching strategies. Teachers must embrace and accept cooperative learning as the norm. Teachers must facilitate the transition from a traditional classroom to one where cooperative learning is standard practice. The classroom management skills of the teacher play an important role in the success in implementing cooperative learning according to Thompson and Chapman (2004).

The role of learners in a cooperative learning process also needs to change. According to Adams et al. (1990), there must be a shift in students' attitudes if a cooperative learning environment is to succeed. The role played by the learner in a cooperative learning environment differs from the one played in a traditional learning setting. The learner is more active.

Assigning different roles to learners is one way to encourage positive interdependence, interaction and group work amongst learners. Roles are responsibilities that are given to learners in a cooperative learning environment. A variety of roles can be assumed by the learner as identified by Goor and Schwenn(1993). These include, but are not limited to:

- The captain
- The encourager
- The note taker
- The presenter
- The taskmaster
- The coach
- The reporter
- The runner
- The group manager
- The motivator.

2.15 Cooperative learning for social transformation

Cooperative learning can be a valuable educational tool in transforming post-apartheid South-African society and education, Especially since it is intrinsic social constructivism (Teise, 2013). Teise further suggests that cooperative learning holds value for social transformation in South-Africa and that the South-African education system is committed to democratic and responsible citizenship as educational outcomes and therefore cooperative learning is significant. Hence the statement “We are all responsible for the advancement of nation ... and ... we are all responsible too to others in our society for our own behaviour” (DoE, 2001).

The benefit of cooperative learning is that it is an effective strategy for maximising social transformation in the South African educational context. The transformational nature of cooperative learning lays the foundation for a democratic transformative classroom.

In this action research project I make use of the student teams and achievement division (STAD). The reason for using this model is that it is the model most adaptable to any subject matter. STAD is the appropriate technique because it can be used over a cycle and it fits the cyclic nature of action research.

This method requires the teacher first to present the new subject material to the learners. Following the initial presentation, the learners are organised into mixed groups. All the learners work in a team to ensure that all the learners have mastered the newly acquired knowledge.

A common aim of STAD is to increase cooperation between learners and to improve learner achievement. According to Slavin (1978), STAD has the following benefits:

- There is a positive effect on learners' interaction with others;
- Success is possible for all learners and not just a privileged few;
- Improves friendship

In conclusion I believe that cooperative learning has the ability to transform my classroom to become a transformative space where learners participate cooperatively to build social cohesion and become good citizens. They should become critical thinkers and start questioning authority.

Thus as a transformative intellectual and critical teacher using cooperative learning, I start to question the technocratic and mechanical approach to teaching. In my questioning I pose the following questions: How am I teaching?. What is the ultimate aim of my teaching? And who control the existing knowledge at school and what is the purpose of this control?

In Chapter Three I discuss action research as an alternative to the technocratic approach to research. I also explain why I choose it as the approach in which I conducted my research. My research incorporated two action research projects that I undertook at the school where I am teaching. These projects, as I mentioned earlier, were the mechanism to get my learners more actively involved in the classroom.

CHAPTER 3

ACTION RESEARCH

3.1 Introduction

In the previous chapters I pointed out how my teaching practice was influenced by the unequal education system and society of the apartheid years. I began to question my technical and mechanical way of teaching. In an attempt to understand what was happening in my classroom, I opted for an action research project with a view to changing and improving my teaching practice.

This chapter focuses on action research as the research methodology which is employed in this study. I shall give a brief historical perspective on the development of action research, define it, explain how it operates, and give an account of how action research works. In retrospect I question my instrumental way of teaching.

Action research (AR) is research that is conducted by classroom teachers, examining their own practices. The aim of action research is to examine one's practice critically and then make changes to those practices based on the results of the research. Action research can be conducted by a single teacher or a group of teachers working together.

Ferrance (2000) summarises five steps in action research:

- 1) Identify the problem or question that is going to be investigated;
- 2) Gather data to help answer the driving question. Data can be collected in many forms (e.g. interviews with students, surveys. Journals, video or audio tapes, samples of student work etc.);
- 3) Interpret the data by critically examining all data sources and identifying major themes;
- 4) Evaluate results – in particular examine whether or not the question has been answered;
- 5) Take the next steps – develop additional research questions or make changes to instructional methods.

Action research can improve instruction for students; in addition, it can empower teachers since it is a tool that allows them to judge their own efforts and evaluate the outcomes of their practices.

3.2 Historical perspectives in action research

Action research is not a new approach to research. It has a history and has been used and defined by researchers in a variety of ways. It is a concept that can be traced back to the work of John Dewey (1961), and Kurt Lewin in 1948. There are many ways of looking at action research; different schools of thought tend to emphasise different aspects of the action research process. In my opinion action research provides an opportunity for

teachers to reflect on their own classroom practices with a view to improving them. Action research is not an impersonal journey, but a journey of discovery and self-reflection.

According to Cohen, Manion and Morrison (2000):

One of the founding figures of action research, Kurt Lewin (1952), remarked that research which produced nothing but books was inadequate. The task as Marx suggests in his theses of Feuerbach, is not merely to understand and interpret the world but to change it.

Is it possible to provide a coherent history of action research? Most researchers attribute the concept of action research to Kurt Lewin. McTaggart (1988) and Zuber-Skerrit (1992) state that the origins of action research can be traced back to the work of Kurt Lewin in the 1940s; he was an American psychologist according to Greenwood and Levin (1998). Many researchers believe that action research originated from Lewin, but a careful study of the literature suggests that there is evidence that action research was also used by social reformists prior to Lewin, such as Collier in 1945, Lippitt and Radke in 1946 and Corey in 1953 (McKernan, 1991).

Klaasen (2003: 44) suggests that Stephen Corey were the first researcher to use action research in education in 1953. Corey was of the opinion that the habit of studying the consequences of our own practice contributes greatly to improve and change our own practice rather than reading what someone else has discovered about his or her practice.

Kurt Lewin, in the mid 1940s constructed a theory of action research, which described action research as "proceeding in a spiral of steps, each of which is composed of planning, action and the evaluation of the result of action" (Kemmis and McTaggart 1990:8).

Lewin argued that in order to "understand and change certain social practices, social scientists have to include practitioners from the real social world in all phases of inquiry" (McKernan 1991:10).

This construction of action research theory by Lewin made action research a method of acceptable inquiry. (McKernan 1991:9)
Masters (1995)

The idea of action research by a teacher researcher was taken up by Lawrence Stenhouse (1975) in the late 1960s and early 1970s in the United Kingdom to improve educational practice. Stenhouse advocated for an active role for educators in researching their daily practice. Stenhouse (1975:143) points out that the main obstacle to improving educational practice is failure to reflect on the critical examination of the illusions and the habits of teachers.

Cowan (1990) states that the beginning of a serious attempt to use research in education was given momentum in the United Kingdom when Lawrence Stenhouse (1975) encouraged teachers to see themselves as researchers. According to Stenhouse (1975),

The improvement of teaching is a process of development. It cannot be achieved by a change of heart, but by the thoughtful refinement of professional skill, and second that the refinement of professional skill is generally achieved by the gradual elimination of failings through the systematic study of one's own teaching. (1975:39)

In South-Africa, according to Esau (2013:3), an emancipatory form of action research as an educational initiative was first cited in a book entitled *Action Research: justified optimism or wishful thinking?* edited by Flanagan et al. (1984). The idea of action research as a research methodology was given more prominence when it became a part of a formal and structured master's programme in the Education Faculty of the University of the Western-Cape (UWC) in 1987 under the guidance of Owen van den Berg and later Dirk Meerkotter (1988). Esau cited van den Berg (1993):

Action Research can be a powerful force in freeing South-African teachers from the shackles of their socialisation ... action research needs space in academia to flower rather than perish.

Esau (2013) suggests that the idea of emancipatory and participatory action research found a home in the South African anti-apartheid teaching landscape, where there was a call for "People's Education for People's Power" that motivated teachers to oppose apartheid education in their classrooms. People's education emerged in the early 1980s as part of the struggle against apartheid. It focused on structural changes in education until 1994. Kraak (1998) describes people's education as a "political movement that viewed the classroom as a central site of the struggle against apartheid".

Action research it is both a theory and a methodology. The study was guided by the ideas of action researchers and specifically the ideas of Kurt Lewin (1948), who is regarded by many researchers and writers as the father of action research. Lewin (1948) believed that action research is a form of inquiry based upon problems experienced and that action research is composed of cycles or a matter of "proceeding in a spiral of steps each of which is composed of planning, action and the evaluation of the result of action".

3.3 Definitions of action research

Despite the fact that there is no one agreed definition of action research, as various writers have described it differently. Although it is differently defined, there are some commonalities in their definition of action research. Three of the many definitions of action research will be highlighted in this study. The first one is:

Costello (2003) examines some of these definitions proposed by different scholars and sums up action research as:

A process of systematic reflection, enquiry and actions carried out by individuals about their own professional practice.

Secondly Carr and Kemmis (1986) provide us with a definition that is commonly used amongst action researchers:

Action research is a self-reflective enquiry undertaken by participants in social situations in order to improve the rationality and justice of their own practices, their undertakings of these practices, and the situations in which these practices and the situations in which these practices are carried out.

Thirdly Davidoff and van den Berg (1990) define action research as:

a way of taking a systematic, close, critical look at the way in which we teach, with the view of changing it so that the classroom experience becomes more meaningful one for all those involved in it.

Action research is a participatory, democratic process concerned with developing practical knowing in the pursuit of worthwhile human purposes. It seeks to bring together action and reflection, theory and practice, in participation with others, in the pursuit of practical solutions to issues of pressing concern to people, and more generally the flourishing of individual persons and their communities (Reason & Bradbury (2006), as cited by Ngwerume & Themessl, 2010).

3.4 The teacher as action researcher

The idea of classroom action research was introduced by Stenhouse (1975) and promoted by Elliot (1991) and other researchers, who coined the term 'teacher researcher'.

In my role as teacher I come to the realisation that action research requires changes of my own teaching practice. Thus the road of action research required changes. Ernie Stringer (2008) notes:

Enacting participatory approaches required me to take quite a difference stance to my work. I now realize the necessity to thoughtfully engage in practices that involve changes in a relationship, positioning, authority and knowledge production practices. As a teacher researcher I am a changed person.

Stenhouse (1975) started the teacher research movement. Stenhouse was of the opinion that all teaching should be based upon research, and that research and curriculum development were the preserve of the teacher. Stenhouse (1975) quoted in Cohen & Manion (1994) suggests that:

Action research should contribute not only to practice, but to a theory of education and teaching which is accessible to other teachers.

According to Klaasen (2013), the concept of classroom research was initially proposed by Corey (1953) and Stenhouse (1975), and enjoyed the support of action researchers such as Hui and Crossman (2011) and others, who acknowledge the concept of the teacher as researcher. The teacher in the research project is an active participant and not a passive observer.

Teacher action research is a method for teachers to engage in research and assess and improve their own practice. This can help teachers to reconsider their teaching methods and practices in order to solve a problem.

This resonates with what McNiff (2002) observes, namely that action research is an opportunity for teachers to get involved in their own practices in their own unique way.

Action research carried out by teachers should:

- be carried out by teachers themselves;
- focus on improving teaching and learning;
- be critical and reflective of their own practice.

According to the researcher, teachers who engage in action research in the confines of their classroom do so not only to improve and reflect on their own practices, but also to produce knowledge. In this view teachers play a central role in generating valid educational knowledge. Pikes (2002) states that action research undertaken by a teacher can be valuable as it generates pedagogical knowledge. Laboree (2003:15) states that the transition from teacher to researcher is in many ways a natural and easy one, but there are still distinctive problems of preparing educational researchers.

3.5 The three modes of action research

Grundy (1988) differentiated between three types (modes) of action research: technical, practical and emancipatory. According to Masters (1995), Holter and Schwartz-Barcott (1993) also discuss three types of action research: a technical collaborative approach, a mutual collaborative approach, and an enhancement approach. McKernan (1991) also lists three types of action research:

- the scientific-technical view of problem solving;
- practical-deliberative action research; and
- critical-emancipatory action research.

This subsection focuses on the three modes of action research as described by Grundy (1988). In order to differentiate between the three modes action research I will present the modes in table form.



Figure 3.1 The three modes of action research based on the work of Grundy (1988) illustrated by quotes from Masters (1995)

3.6 How does action research operate?

Action research follows a cyclic or spiral approach of planning, action, reflection and evaluating. Different terminology is used to name the cyclical nature of action research study, ranging from reflective cycle to a research project. According to Costello (2003 :3) an action research project involves:

Deciding on a particular focus for research, planning to implement an activity, series of activities, or other interventions, implementing these activities, observing the outcomes, reflecting on what has happened and then planning a further series of activities. In Chapter Four and Five the researcher is using the term research projects.

At its heart, action research involves the careful monitoring of planned change in practice. A decision is taken that a particular action may either yield improvements or provide information as to the nature of the teaching situation. The action is thus used as a research tool. Both elements of action and research are of equal prominence in the approach. It can be thought of as: research on action by using action as a tool for research, with the process being driven by a dialogue between the elements of action and the intention behind the action. In the process of action research there are four themes that weave through the process: the empowerment of the participants; collaboration through participation; acquisition of knowledge; and social change.

The action research process is often described as cyclical in four interrelated stages:

- Planning
- Action
- Observation
- Reflection.

These cycles can be repeated continuously, with each cycle establishing a layer of understanding and improved practice. Carr and Kemmis (1986) state that:

Action research project proceeds through spirals of cycles of planning, acting, observing and reflecting, with each of these activities being systematically and self-critically implemented and interrelated.

In this subsection I will discuss the different phases of the action research process. The diagram below illustrates the four phases (stages) of action research. This model of the cyclic nature of the typical action research process (Figure 3.2) was developed by Stephen Kemmis. Each cycle has four steps: Plan, Act, Observe and Reflect (Yasmeen, 2008).

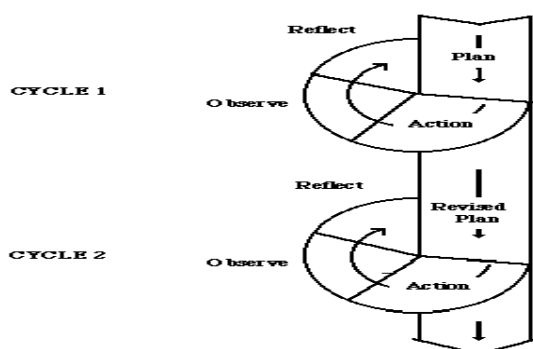


Figure 3.2 Simple Action Research Model from MacIsaac, 1995

3.6.1 The planning stage

The planning stage is the accepted first phase of the action research cycle; it involves the teacher researcher forming a general idea of what it is that he wants to research. It also involves looking carefully at what is happening in one's classroom from a number of perspectives. It is important to look at this stage within both the micro and macro context. The teacher can ask a triangulator from outside the process to assist in the planning of the process. The most important outcome of the planning stage is a detailed plan of the action you intend to take or the change you intend to make.

3.6.2 The acting stage

Here the teacher researcher will carry out what he has planned in a systematic and thoughtful manner. The teacher researcher should observe his actions while he implements them. The teacher researcher must also be prepared for unforeseen events as plans do not always work out as one anticipated or planned. It is in this stage that new insights are likely to arise. They can be either be incorporated into your project or recorded for future research.

3.6.3 The observation stage

During this stage the teacher researcher gathers information about his actions. Detailed observation, monitoring and recording are necessary as this enable you to assess the effect of your actions or interventions and hence the effectiveness of the proposed

change. These actions could be recorded as personal field notes. During this stage the learners and the triangulator also record their observations. It is also helpful to use audio and video recordings which will capture not only the learner's words but also their facial expressions and body language.

3.6.4 The reflecting stage

During this stage the teacher researcher compares data with what he had planned to do and can try to arrive at an understanding of the process that has taken place. It is important to reflect critically on what has happened, using your notes and observations. Contradictions in the data will provide a useful starting point to get different perspectives on understanding the forces that impact on the classroom. At this stage the research findings should be discussed and debated with the triangulator, as well as with the learners.

The teacher researcher will use his evaluation to plan the next action research project. The researcher at this stage may decide to ask the learners and the triangulator to assist him in planning the next project. Davidoff and Van den Berg (1990:47) point out that it is at this stage of the project where you are looking back on your efforts in order to look forward towards your future plans. At this stage ideas arise for a further project of action research.

3.7 The preference for action research

My preference for action research was inspired by my passion for working together and with my dissatisfaction that, although I believe in working together cooperatively, that does not reflect in my own teaching practice. I feel disappointed of having failed in my endeavour of working together to build a more inclusive and cooperative classroom through my teaching practice.

I view action research as an opportunity for me as a teacher to start with a systematic process to reflect, consider options, implement and evaluate potential solutions to problems that I experience. I also view action research as an opportunity to reflect on my own practice with a view of understanding and improving that practice (Carr & Kemmis, 1986).

I want to introduce this section with a narrative from a school so as to capture my preference for action research as a research methodology.

During a staff meeting the principal expressed his frustration over the number of discipline problems that occur during break times. The staff members discussed the issue at length and then one of the staff members proposed that the break time be reduced from a forty-minute break to a twenty-minute break. The rationale given for this suggestion was that it would reduce the time learners had to get into trouble. After some discussion the suggestion was adopted and implemented. The whole school had to adapt its activities to the shorter time. No one afterwards could really tell if there were

fewer discipline problems now, because no one knew what the statistics were for the previous year. (Adapted from the Alberta Teachers Association 2000)

This anecdote from the school demonstrates the idea that the teachers did not have time to reflect on and examine the problem closely. They implement a solution that deals with the problem, but as a result it can give rise to new and more serious problems. If the teachers at the school take time to design an action research study into the problem, they could have learned more about the discipline problem at the school.

I want to draw on the work of Mc Niff (2002), who holds the viewpoint that self-reflection is a major component of action research.

The idea of self- reflection is central. In traditional forms of research – empirical research – researchers do research on people. In action research, researchers do research on themselves. Empirical researchers enquire into other people's lives. Action researchers enquire into their own self. Action research is an enquiry conducted by self into the self.

Action research as a methodology is my preferred choice. It grants me as a teacher the opportunity to do research in my own environment and to see if it can work. Secondly, the action research approach normally makes use of what can be called a cyclical process. The four cycles are planning, action, observation and reflection. Through these cycles of action research I want to improve my practice.

The action research approach lends itself to a spiral of cycles with the researcher reflecting on each stage of the process. This cyclical nature associated with action research is what attracts me to this research approach. It emphasises that my research is a process and not an event. Esau (2013) points out that it leaves open the door for further inputs, scrutiny, improvement and further research. This view is also expressed by Kemmis and Mc Taggart, (1982), Winter (1989) and McNiff (2002).

- Develop a plan of action to improve what is already happening;
- Act to implement the plan;
- Observe the effects of action in the context of what occurs;
- Reflect collaboratively on these effects as a basis for further planning; and
- Carry out subsequent action through a succession of cycles.

I choose action research as a methodology because I have a commitment to developing more effective strategies to improve my teaching. I believe in truth and compassion and therefore it is important for me to develop actions that can bring about change in the teaching and learning environment. Action research is emancipatory. It leads to the ability to create knowledge. In action research knowledge is a living, evolving process of everyday living experience.

What further attracts me to action research is the idea that the researcher is not the research expert who shares research skills, but is also the co-learner who recognises and benefits from the skills and knowledge of the group members (Mc Nicoll (1995), as cited by Esau, 2013). Mc Niff (1998) suggests that action research is an approach to improve education through change and to make you aware of your own practice and to be critically oriented to that practice.

The features of action research make it the ideal research method for me as an aspirant researcher, embarking on my first research project, and as an ordinary teacher in a rural school to do research in my own class with the aim of improving my own teaching practice.

I am aware that action research holds numerous implication for teachers in that it opens up a sense of greater responsibility with regard to their own lived experience in the workplace and the learners they are working with. I am also cognisant of the fact that action research in its current format is a continuous process and that it affords teachers a tool to improve their classroom practice.

If I take into account the constraints placed upon teachers within the present schooling system, it becomes difficult to assess the potential of action research in transforming the oppressive material conditions in which most South Africans live. I would, however, agree with Walker (2001; 620) that to dismiss action research would be to dismiss the contribution that teachers can make in the shaping of a critical pedagogy.

3.8 Resources used in action research

3.8.1 Interviews

Interviews are particularly useful for getting the story behind a participant's experience. The interviewer can pursue in depth any information about the topic. Interviews may also be useful as a follow-up to certain respondents' responses to questionnaires (McNamara, 1999).

Interviews can be used to collect facts, e.g. information about people's place of work, age and other relevant information. An interview is a personal face-to face contact situation allowing for more focused and relaxed conversation between interviewer and interviewee. Interview questions seek to elicit information about trends, attitudes, perspectives, opinions and meanings. Interviews are widely used because they are a powerful means of obtaining information and gaining insights. In developing interviews, thorough preparation is needed.

Prepare questions well in advance. It should be helpful to first test them on peers before administering them to the participants. Carefully consider your questions to avoid bias. Interviews are contrived, artificial situations and interviewees often respond to questions in a manner that reflects this. Before you start the interview, you as the researcher must know what type of information you want from the interviewee. It is important to adhere to the following steps when preparing for the interview and apply the following procedures during the interview process.

Preparation for the interview:

- Choose a setting with the fewest distractions.
- Explain the purpose of the interview.
- Address issues of confidentiality.
- Explain the format of the interview.
- Indicate how long the interview usually takes.
- Allow the interviewee an opportunity to clarify any doubts about the interview.

Procedure of the group interview:

- Occasionally check that the tape recorder is working.
- Ask one question at a time.
- Remain as neutral as possible.
- Encourage responses.
- Be careful about the appearance when taking notes.
- Don't lose control of the interview.

In my research I interviewed Grade 10 learners who attended my Geography classes as well as FET (Further Education and Training) teachers who were teaching the same Grade 10 learners. The materials I used during the interviews were the following:

Note paper;

Tape recorder;

List of interview questions prepared in advance.

It becomes essential for the researcher to transcribe exactly what was said during the interview. This can be a very time-consuming process, but it is important to write down what exactly was said. Share what you transcribe with the participants to make sure that they agree with, and affirm, the contents of the interview.

3.8.2 Focus groups

There are different definitions of focus groups in the literature. Powell et al. (1996:15) identify focus groups as collective activities in focus groups as a contribution to social research.

Elliot and Associates (1995: 5) define a focus group as a small group of six to ten people led through an open discussion by a skilled moderator. The group needs to be large enough to generate rich discussions, but not so large that some participants are left out. Focus groups, according to Morgan (1998) are under-used in social research, although they have a long history in market research.

Krueger and Casey (2009:35) define a focus group as a carefully planned series of discussions designed to obtain perceptions on a defined area of interest in a permissive and non-threatening environment

Focus groups are a form of group interviewing, but it is important to distinguish between the two. Group interviewing involves interviewing a number of people at the same time, the emphasis being on questions and responses between researcher and participants. Focus groups, however, according to Morgan (1997:12), rely on interaction within the group based on topics that are supplied by the researcher.

People that make up a focus group can range from 4 to 15 people who share the same characteristics relevant to the evaluation. It is advisable to use between 6 to 10 people in your focus group. To organise a focus group requires the researcher to plan adequately in terms of the facility and the questions that need to be asked. It is important to observe the three ground rules during focus group activities.

- a) Remain focused.
- b) Maintain momentum.
- c) Get closure on questions.

A focus group is a useful tool for doing research.

3.8.3 Questionnaires

Questionnaires can be used to collect large amounts of information from the learners. The questions must be open ended. The results of the questionnaires can be quickly and easily quantified by the researcher.

3.8.4 Field notes

Field notes, according to Thorpe and Holt (2008), are contemporaneous notes of observations or conversations taken during the conduct of the research. Depending on the circumstances, the notes can be conversations taken by hand or recorded on a tape recorder.

3.8.5 Triangulation

Triangulation is essentially part of this research project. Triangulation, according to Esau (2013), may occur in many ways as data can be collected by observing a project from different perspectives: using various settings, using different enquiries, using multiple research methods. However, the data collected in a triangulation process must be directly fed back to the participants who offer critical comments on the data (McKernan, 2000).

Triangulation is a powerful technique that facilitates validation of data through cross-verification from two or more sources. It is a technique of establishing the credibility of qualitative analyses. As a teacher you can compare and contrast accounts of teaching acts in the classroom from one's own, the learners' and an observer's point of view. Cohen

and Manion (2000) define triangulation as an “attempt to map out, or explain more fully, the richness and complexity of human behaviour by studying it from more than one standpoint. Altricher et al. (2008) contend that triangulation “gives a more detailed and balanced picture of the situation”.

3.9 Ethical considerations

In the planning stages of any research as well as in the implementation stages of the research project, according to Mertens (2010), ethics plays a crucial and vital role.

Teise (2013) is of the opinion that because of the close link between method and methodology, ethical issues are also embedded in methodological considerations. It can be argued that critical theory opens up a space for the consideration of specific ethical issues related to this paradigm.

When I applied for permission to conduct the research from the Free-State Education Department, I attached all required documentation and sent it to the research directorate. I was duty bound to inform the participants that their participation is totally voluntary and that they are not coerced into participating in the research project. This is a mechanism put in place by the researcher to ensure that participants fully comprehend and understand what it meant to be part of this action research project. Furthermore, the participants are told that they can withdraw at any time during this research project if they feel uncomfortable.

I also obtained consent from the school governing body, teachers and learners who agreed to participate in the study. I keep the Free-State Department of Education informed about the progress of my research project.

As a researcher I have an obligation and responsibility towards the participants in this research project in ensuring that their privacy and confidentiality are protected at all times. Whilst it is important to protect confidentiality, it is also incumbent on the researcher to treat the participants with respect and professionalism.

Robson (2002) states that ethics refers to rules of conduct by way of conforming to a code of set principles. Nkwi, Nyamongo and Ryan (2001) advise that whenever we conduct research on people, the wellbeing of research participants must be our top priority.

The researcher undertook to observe and respect the dignity of the research participants. Adherence to this principle ensured that the participants are not simply used to achieve the research objectives of this study.

In the following chapter I give an account of the first action research project I undertook in my class. This project, as I indicated in Chapter One, was an attempt to help build social cohesion through the use of cooperative learning in my classroom.

CHAPTER 4

MY FIRST ACTION RESEARCH PROJECT

4.1 Background and preparation

In this chapter I provide the details of my first action research project in which I made an attempt to use cooperative learning as a teaching strategy to enhance and build social cohesion. This action research project must, however, not be seen as a blueprint or a recipe for changing one's classroom practice, but should rather be viewed as an effort by a teacher who attempted to collaborate and 'empower' his students to make meaning of their existence and co-existence, as well as to himself.

I am responsible for teaching Geography for the entire FET section at the school. The Grade 10 class with which I work on this particular research project consists of both English and Afrikaans students. The reason why I chose this class is because of its composition in terms of race and language ability and the medium of instruction at our school, that is a parallel medium of instruction. This class seems to be more cooperative than the other class.

My first action research project starts well into the second quarter of the school term. I notify my triangulator of the date of my first lesson. I call the parents to a consultative meeting and explain my research project to them. My first lesson took place on 14 May 2004.

4.2 Time management

Cooperative learning lessons take up more time than traditional teaching lessons. While it feels impossible to do everything I need to do, careful time management helps me to stay focused and maintain control over my research project. I ask the students to return after school so that we can conduct the lessons for the research. Some activities, when structured cooperatively, take longer to complete.

4.3 Problems experienced during the project

To conduct the research after school was problematic, because some the students were engaged in extramural activities and some did not want to return after school. I feel disappointed and have to negotiate with them and remind them that they gave their consent. Before I start with the research I negotiate and discuss my research with the students involved. I felt it was only ethical to do so.

As Ely (1999) puts it: "qualitative research is an ethical endeavour." The nature of action research requires the support of all the parties involved. As mentioned elsewhere in this thesis, cooperative lessons take up more time and that's why I conduct the lessons out of normal tuition time and to comply with the conditions set out by the Free-State Education Department when it granted permission to conduct the research in the school. Too much time was spent on the lesson and there was absenteeism of some of the students.

There was an increased noise level during group work. Another challenge that I was face with, was that of space. The new prefab classes were much smaller. Domineering students in a group that take over the group were a concern to me. There were some disciplinary issues, as there are in most classes; however, my focus and challenge was to make the class one of cooperative learning to make it inclusive to all the students in the class.

4.4 Discussion of the problems

Whilst discussions of problems during my research projects cannot be viewed as components on their own, it is forever present as a space for the process of students mastering the content and engage in critical thinking. Brookefield and Preskill (2005:13) not only recognise discussion of problems and classroom discussions as the fostering of a democratic environment where participants advance different points of view, but also list the following benefits:

1. It help students explore a diversity of perspectives.
2. It increase students' awareness of and tolerance for ambiguity or complexity.
3. It encourage attentive and respectful listening.
4. It leads to transformation.
5. It develops habits of collaborative learning.

After discussing the reluctance of some of the students to return after school, they realise the importance of the project. I need to win the students over and get them to buy into the project and stay focused on my research project and so I encourage them to function in unity. The absentee students agree to attend the next lessons.

I also remind them if they feel uncomfortable or experience any problems with the lessons they should raise their concern with me to find possible solutions to the problems they have. However, I recognise that by saying that might force the students into a position of retreat where they will distance themselves from the discussion of problems due to a number of reasons including not feeling to question the authority of the teacher or question the teacher. My own workload becomes a problem for me; apart from teaching in the FET phase, I also teach in the GET and intermediate phase, but I am prepared to see this project through.

We discuss the noise levels with the group and I was mandated to approach the other teachers who also work after school and communicate to them that these new noise levels from my class are of learners constructively engaged in learning and not a sign of a lack of control. The lack of space is a contextual factor. We recognise that we cannot arrange the entire desks into small groups. I stress the importance of equal participation to the groups and inform them that the lessons have been structured cooperatively.

It is my contention that by incorporating classroom discussions as a component of cooperative learning, the latter could not only enrich the teaching and learning experience, but also encourage students to be able to discuss even the most difficult and contentious issues.

4.5 Valuable lessons learned from the project

A well thought out action research project can facilitate valuable learning experience for the learners. I personally find considerable value from the research project. There are many arguments on the value of incorporating cooperative learning in the classroom. What was also valuable to me was that I was able to expose the students to alternative teaching strategies. Time remains an important factor in research and so was it in the case of the first project. The learners were very optimistic about the teaching method. To plan in advance was an important lesson that I learned when conducting the first research project.

4.6 Data collection

Data collection is an important aspect of any research and forms the basis of the analysing process of the data that have been collected. This study uses observation, field notes, triangulation, questionnaires and focus group interviews as data-collection techniques.

4.7 Observation

As an observer I was involved in the activities, as I spent considerable time with the learners in the class during the research process. Comprehensive field notes were documented during the period of research and questions asked. There are many ways of observing activities in class. The type of observation decided upon will depend on the following (Jones, 1993):

- The chosen focus of the observation;
- The purpose of the observation;
- The experience of the observer.

4.8 Field notes

Field notes allow the researcher to convert experiences and observations into descriptions, according to Emmorson, Fretz and Shaw (1995). Emmorson et al. point out that researchers using field notes can give a voice to people to be heard in the text they produce. When taking field notes, it is important to date them. Notes should be carefully captured during interviews and discussion or as soon as possible afterwards.

4.9 Triangulation

In this research project I use one triangulator as an integral part of the methodology. He observes the cooperative lessons. I ask him to be honest with me when writing his report because, as mentioned in Chapter One, I want to improve my practice and grow as a

teacher during the process. McKernan (2000) contends that data collected during the triangulation process should be given directly afterwards to the participants involved to be scrutinised and to comment critically on them.

4.10 Questionnaires

A questionnaire is a list of written questions that can be completed. The use of questionnaires as data-collection technique has been on the increase nationally as well as internationally (Sitzia et al., 1997; Bakas & Champion, 1999; Chen, 1999; Jones & Johnston, 1999; Jeffreys, 2000; Waltz & Jenkins, 2001; Siu, 2002; Rattray et al., 2004). Questionnaires should always have a definite purpose that is related to the objectives of the research and it needs to be clear..

4.11 Focus group interviews

Focus groups are defined as a "carefully planned series of discussions designed to obtain perceptions on a defined area of interest in a permissive, nonthreatening environment" (Krueger & Casey, 2009).

Some key points about focus groups:

- Focus groups are a way to get information about attitudes, beliefs, feelings and emotional reactions;
- Focus groups can also help you generate new ideas;
- Focus groups allow you to get both individual and interactive opinions (how your subjects react to one another), and they allow you to record both words and non-verbal behaviours.

4.12 My first action research project

I was under immense pressure to complete my action research project. After the recess of the elections and the weeklong vocation I explain my plan to the students and communicate the date of my first lessons to my triangulator.

As this was my first attempt at research I was very nervous and excited. The students were also very excited and we arranged the seating in the class in a way that we have four different groups. I decided on GIS for the lessons in the first and second project as it is ideal to use cooperatively where the learners can work together. My research consisted of two projects with two lessons each over a two-week period. Data were collected as discussed in chapter One

In this chapter the researcher wants to address the concern identified by the researcher – that is, to reflect on my own practice as a teacher with a view to improving it and growing personally during the research project. Furthermore, the researcher want to explore what effects cooperative learning has on students in the class where the research is conducted.

My lessons were about geographic information systems (GIS) to introduce the principles of GIS and the basics of GIS software on a Grade 10 level. GIS is incorporated into the curriculum and assessment policy statements, and forms part of the Geography syllabus for the FET Phase. GIS should be seen as a tool to help teach Geography, but it can later be introduced across other disciplines. GIS revolves around spatial reasoning and critical thinking. It is important to remember that the human element is always required; without it GIS remain just software and data.

The students in Geography normally struggle with GIS and it would be ideal for them to work together in solving the problems posed by their first cooperative lesson. The rationale behind this is to get them to communicate with each other and get involved in the process. The class was already arranged in a cooperative setting to enhance cooperative group work. Each group received worksheets to complete at the end of the lessons. (See Addendums).

4.13 Lesson 1

My first lesson took place on 14 May 2014. The Module that we studied was Geographical Information Systems Theory. The lesson content to be dealt with in this lesson was the Introduction to GIS and the information age. For this lesson basic map work skills are required. The resources to use are a PC, GIS notes on the basic software, chalkboard and a data projector. The students will listen, comment and discuss in the group and ask questions. The students watch a clip and give input. They discuss where particular skills may be used in the industry. I ask them to take out their cell phones and play around in the group with Google Earth (www.googleearth.com).

4.14 Lesson 2

The second lesson took place two days later and also deals with the module Geographical Information Systems. The lesson content to be dealt with in this lesson is the definition of GIS, components of GIS and the uses of GIS. For this lesson the students need to understand the use of computers and be able to access the internet from a cell phone. In this lesson the teacher introduces the concept of GIS as a link to map interpretation and a skill for teaching geography. In the cooperative groups the learners identify point, line and polygon features on maps. In groups of five the students study the notes and follow the lesson. Students play with Google Earth and try to find their own suburb (www.googleearth.com). Students answer the questions on the worksheets.

In presenting this lesson some critical questions are asked:

- What are Geographical Information Systems?
- What is GIS about?
- What are the key features of GIS?
- What is the information age?

It was expected of me as the teacher to fulfil a facilitator's role in the action research project, whose aim was solely to help the students to become actively involved in the process and make meaningful connections between prior knowledge, new knowledge and the process involved in learning.

During the action research project I allocated different roles to the students in the groups and rotated them during the lessons. The roles allocated were:

- Coordinator: Responsible for the management of the groups
- Timekeeper: Responsible to keep time during the activity
- Scribe: Responsible to take notes during the activity
- Reporter: Responsible to report back at the end of the session
- Motivator: Responsible to motivate the group

In this research it is hoped that the students would communicate freely with each other to promote better relations in the groups. My class was set for a cooperative environment in which it is envisaged that the learners would ask questions and speak freely. The groups were mixed and this was done to promote social relationships in the class. The students acknowledge and accept this and were glad to have other learners in their groups, because they said they could learn from each other and they can seek help from the Afrikaans students and the Afrikaans students can seek help from the English students.

During the presentation of the two lessons I invite a triangulator to my class to observe my lessons. The content dealt with was GIS. I ask the students the following questions and ask them to discuss it in their groups and come up with possible answers.

- What are Geographical Information Systems?
- What is GIS about?
- What are the key features of GIS?
- What is the information age?

The second lesson dealt with the components of GIS and the uses of GIS. I give them a assignment that they need to discuss in the groups and come up with possible answers. "McDonalds would like to open a new outlet in your town. How would they use GIS to determine whether the location is suitable?"

I explain the concept of GIS to the students and ask them to make a note of important key words during the lesson. Key words that they wrote down were:

- Satellite
- Spatial information
- Data
- Remote sensing
- Electromagnetic radiation.

The purpose of these lessons was to introduce the learners to GIS and the importance of GIS to show a variety of geographical details on maps and how it can be displayed. After

the lesson I distribute the activity worksheets to them for completion. The groups were eager to participate and all the learners were actively involved in the discussions. The topic was new to them because it is only in Grade 10 that the students are introduced to the concept of GIS. During the report-back sessions learners listen attentively to the groups and ask questions. The different students who were allocated roles execute them in very well and support each other.

During the report-back session on the uses of GIS, when I asked them to come up with possible answers to the question as to how McDonalds would use GIS to open a new outlet in the town, they come up with a range of answers:

- It will enable them to work at McDonalds;
- They will eat take-aways every day;
- McDonalds is the best fast food outlet;
- McDonalds will be able to establish if there are other fast foods outlets in the town.
- GIS would determine the income of the people

It is also important to note that the lessons were of a cooperative nature and all the lessons were group based and the setting of the class was reflective of cooperative learning. The purpose to adjust my class to a cooperative approach was:

- to create a feeling of interdependence amongst the learners;
- to enhance communication between the learners;
- to ensure maximum participation;
- to ensure learners cooperate with each other;
- to foster respect amongst the learners;
- to accept co-responsibility for each other's learning;
- to enhance relationships in the different groups.

4.15 Reflection on first action research project

In reflecting on my first project I found that I agreed with Campbell-Jones and Campbell-Jones (2002), who contend that reflection is a dialogue with yourself where you recall your personal experience and perceptions. Through action research I try to develop an action research project that helps learners through a set of Geography lessons to work together in a cooperative manner to build stronger social relationships. At this stage I cannot say yet whether I have reached my objectives.

As pointed out earlier, action research is about research in action and does not postulate a distinction between theory and action. Hence the challenge for action researchers is to engage in both making the action happens and stand back from the action and reflect on it as it happens. The reason for reflecting on the project was to:

- Give me a chance to reflect on my practice as a teacher;
- Help me organise the research;

- See what worked and what didn't and decide on the course of action to be taken;
- evaluate the results;
- Understand more fully the rationale of the study.

What is important is to acknowledge that the students were more motivated and developed respect for cultural diversity in the groups. The cooperative lessons enabled students to reflect on their own learning and those of the other learners. They feel if they work together and master the content, the groups will attain their goal of working together. My research in the first project was significant, because the students were excited and after the session they had talks about how nice it was to work cooperatively in the groups and how well some of the students executed the different roles that I assigned to them.

My objective was not to reinvent the wheel, but I understood that there would be challenges that need to be corrected and that change would not happen overnight. The students were able to work together and the discussion in the groups was a positive indication that students can work together and help each other in groups. Seeing the groups work together and grow in the process was probably the greatest joy that I as an educator could have experienced.

When I started with my lessons I thought that if I make the lesson interesting, clear and relevant, everyone in the class would understand and enjoy the lessons. These objectives were important for me to experience success. Although it did not work out as planned, I assumed wrongly that if I achieve this, my project would be a success. In one of the groups there were students who were more advanced than the others and I realise that it was necessary to let them understand to work as a collective. Again I stressed the importance of equal participation of the groups as elsewhere in this thesis.

I realise that not only do I need to plan adequately to get through the lessons, but also I have to consider how best can I make the groups work more cooperatively in the next lessons. This concern led me to change the groups in the next research project. I realise that I cannot become an action researcher overnight. Instead of trying to become an action researcher in a few months, my goal was to become more aware of how can I improve my practice. I strongly believe, as do other proponents of action research, that it is a collaborative activity searching for solutions to everyday, real problems experienced in schools, or looking for ways to improve and increase student achievement and enhance social cohesion.

In trying to help answer my research question – How can I improve my own teaching practice? – I ask them what is there that we can improve and what are the obstacles they experienced during the lessons? I received a broad range of answers to the question. I want to list some of the responses of the learners here:

- Explain more in detail what you expect from us;
- We don't understand the work;
- The work is difficult to understand;

- We think you should explain some of the work more;
- One thing you can do is to talk slower.

One of the issues that came up more frequently in their responses is that they don't understand some of the work; I realised there was a problem with my teaching practice or the teaching strategy of cooperative learning that I adopted. I must admit that it was my first attempt at using cooperative learning as a teaching strategy in my classroom and also that this was the first time they encountered this section of the work.

I think long and hard about this and realise how I must have been failing in my responsibility towards the students. It is such comments from the students that made me realise how reflection on your teaching practice in action research become an invaluable tool for teachers in particular and action researchers in general.

I regard these comments from the students as very important and realise the potential this has for improving my practice. By analysing these comments, I become more aware of how I was teaching and more conscious of the issues highlighted in the class. I believe that in the second project I will improve on those areas. Obviously improvement in those areas will result in students becoming more accustomed to this teaching style.

However, despite my awareness of my "weakness", I am confident and about to make some improvements. I ask my triangulator what he thinks about the lessons. He comments that everything went well and that I should interpret the comments of the learners in a positive manner and make improvements where I deem fit. He recommend that if I were in the same situation in future to make use of peer assistance and that I need to make some modifications to my teaching style to meet the needs of the students.

Participation of the students in the reflection process is important to me because it gives a voice to the students in the learning process. Clearly I have a long way to go to become an action researcher and meeting the needs of the students. This is just the beginning of my academic journey in becoming an action researcher. As I become a more experienced researcher and teacher, I am of the opinion that cooperative learning as a teaching strategy will become a guiding principle in my teaching.

I did not succeed at first or achieve the required aim of getting them to work together cooperatively, but I understand that change and transformation do not happen overnight. It is a slow process and it is a goal that one needs to aspire to. I became aware that action research is a vehicle of change and tolerance between groups is a continuous process and this is only my first action research project.

To sum it up: this was a challenging task. I accepted the constructive criticism that I received from the students. The researcher understand that this was a new body of work to the students. In terms of the transition from the General Education and Training Band (GET) to the FET band, the students did not learn about GIS in the GET. I saw the need to continue with a second research project in my endeavour to help build social cohesion in my Geography classroom. The next chapter will present new, positive and stimulating

ideas in my bid to make my teaching practice more democratic and to put in place mechanisms for learner cooperation.

CHAPTER 5

MY SECOND ACTION RESEARCH PROJECT

5.1 Background and preparation

In this chapter I give an account of my second action research project, which I see as a continuation of my first action research project in which I tried to use cooperative activities as a means to build social cohesion in a Grade 10 Geography classroom. On reflecting on my first action research project I came to the conclusion that social cohesion cannot possibly be achieved overnight.

My second project of action research was also introduced in the second quarter. The second units of lessons were an extension of the first lessons in project one, dealing with the content of Geographical Information Systems (GIS). I was primarily responsible for preparing the class and equipment for the second action research project. To a large extent the procedure and cooperative technique to be used would be same as in the first project.

5.2 Reflections on my first action research project

The experience gained in the first action research project was invaluable to me. I realise that I need to encourage the students to participate more freely. When I recap and reflect on what happened in the first action research project, I see a need to make few adjustments. My revised plan would be implemented during the period of 12 June 2014 to the 14 June 2014. My plan was to alter the composition of the groups so that there should be a balance during this project .

As for the group composition, I planned it in advance. The group's composition is based on ethnicity, gender and academic abilities. I made name tags to indicate where the different groups would be seated.

I understood that this project would be different from the previous one, because the students would be getting used to the cooperative method. In my reflection I realise that the cooperative teaching method was new to them. This action research project brings hopes, expectations and challenges to both me and the learners. This action research project developed interaction between students and developed their critical thinking.

In an attempt to make a success of the action research project I created activities that influenced the interaction pattern in the classroom. I discouraged competition in groups because I did not know how that would influence the cooperation of groups. Competition in groups might serve as a motivation for others, but it can also discourage team members from participating and I want equal participation in the groups. Silence in the groups draw my attention and I needed to intervene to make sure everybody participated equally. In my reflections on the first action research project I experienced a problem with students who did not want to participate.

Bacon (2005) noted that the literature deals with the problems that educators experience when implementing group work. According Du Toit (2007), the main problems reported in the literature relate to how to deal with 'free-riders'.

5.3 The second action research project

My second action research project was also scheduled for the second term. I reflect on the first action research project. It is hoped that the second project will be better than the first one.

5.4 Collection of data

The research methods used for data collection was field notes, video recordings, questionnaires and focus group interviews. In this action research project the focus group technique was useful. The focus group technique is one of the most effective qualitative methods for studying ideas in a group context. Zuber-Skerrit (2012) states that it can explore group interaction, attitudes and cognition, and arrive at a synergy of ideas, because the whole is greater than the sum of the parts.

5.4.1 Field notes

Field notes are the written observations of what you see taking place in the classroom. Field notes should be written as soon as possible after the lesson. If we observe, we are likely to forget important details unless we write them down as soon as possible. It is a convenient method of capturing ongoing activities in my classroom.

5.4.2 Video recordings

With the consent of the participants I make use video recordings to add value to my data collection. The recording was clearly dated and stored on my computer. Using a video recorder requires great care, because there may be disruptions or a power failure may occur; therefore it is necessary to be prepared for any eventualities. It is advisable to bring spare batteries as suggested by Easton, McComish and Greenburg (cited in Groenewald, 2004; Koopman, 2013), who cautioned that equipment failure can seriously derail any research undertaken.

5.4.3 Questionnaires

In this action research project, I make use of questionnaires to collect data from learners and teachers to get responses. The questionnaire was aimed at teachers in the Further Education and Training band on employing cooperative learning as a teaching strategy in their lessons.

5.4.4 Focus group interviews

I make use of focus group interviews in my research process. Focus groups are a form of interviewing. It involves interviewing a number of people at the same time, with the emphasis on questions and responses. I manage to keep my focus groups small enough to give each participant the opportunity to express an opinion. From the responses it was

evident that the learners were confident enough to communicate their views. It is recommended that focus group interviews should not last longer than two hours at the most. I am of the opinion that the focus group interview is a useful tool for doing qualitative research.

5.5 Planning of my second research project

My second action research project took place from 12 to 14 June 2014. This was also the time that I wanted to put in place my revised plan of action. My revised plan entailed changing the composition of the groups so that I could create a balance among the learners. In my first action research project I did not achieve the desired results I had hoped for.

In addition to the general agreement that the first action research project was not as successful as I hoped for, it makes sense to attempt another project of action research. In my first attempt it can be generally accepted that I struggled with the implementation and challenges of group work. The challenge was to deal with group work dynamics and to ensure that every group member is exposed to the aspects of cooperative learning.

I started this second action research project cognisant of the feedback that the students gave me from the previous research project. "Learning is most influenced by formative evaluation that provides feedback during the course" (Young et al., 2000). It is important to create opportunities for regular feedback to enhance learning and for cooperative learning to be successful.

I was confident that we would work on the recommendations and to make a success of the action research project and cooperative learning as teaching strategy.

I ask my triangulator to observe one of the two lessons for this project. At this point I reminded them of the different roles I assign to the learners in the groups, which they executed so well in the first project.

As stated in 4.12 the lesson content to be dealt with in the two projects was on Geographical Information Systems. This project consists of two lessons each with a complete worksheet that needed to be completed at the end of the lessons.

GIS should be seen as a tool to help teach Geography, but it can be introduced across other disciplines later. GIS revolves around spatial reasoning and critical thinking. It is important to remember that the human element is always required – without this GIS is just software (*GIS Lessons for Educators and Learners Grade 10*).

Research supports the contention that cooperative learning contributes to interpersonal relationships between team members. It is for this reason that I organise my classroom in a cooperative way so that the learners are seated in different groups.

When initiating cooperative learning, I ensure that students are placed in heterogeneous groups of four to six, making sure that each group reflects cultural diversity. This

arrangement strengthen my plan to change the composition of the groups. In times of increasing cultural diversity, cooperative learning can be an excellent means of helping culturally diverse learners in promoting harmony and cooperation among cultures and build sustainable social relationships.

5.6 Putting my plan into action

As I focus on my journey as a teacher researcher in this action research project, I put the following plans in place in the form of cooperative learning lessons that were presented during my second action research project.

5.6.1 Lesson 3

The following lesson was presented on 12 July 2014.

How does GIS work?

Revision of the previous lesson was done just to refresh their memories.

GIS is a computer system.

Thematic layers of GIS.

The definition of thematic layers: They are sets of geographical data stacked on top of one another.

Thematic layers allow you to identify spatial relationships.

The Figure below gives the set of map layers for an area of the earth and shows different features, for example:

- Point features - schools, churches, police stations or shopping centres;
- Linear features - rivers, roads or pipelines;
- Polygon features - vegetation types, water bodies and land use areas.

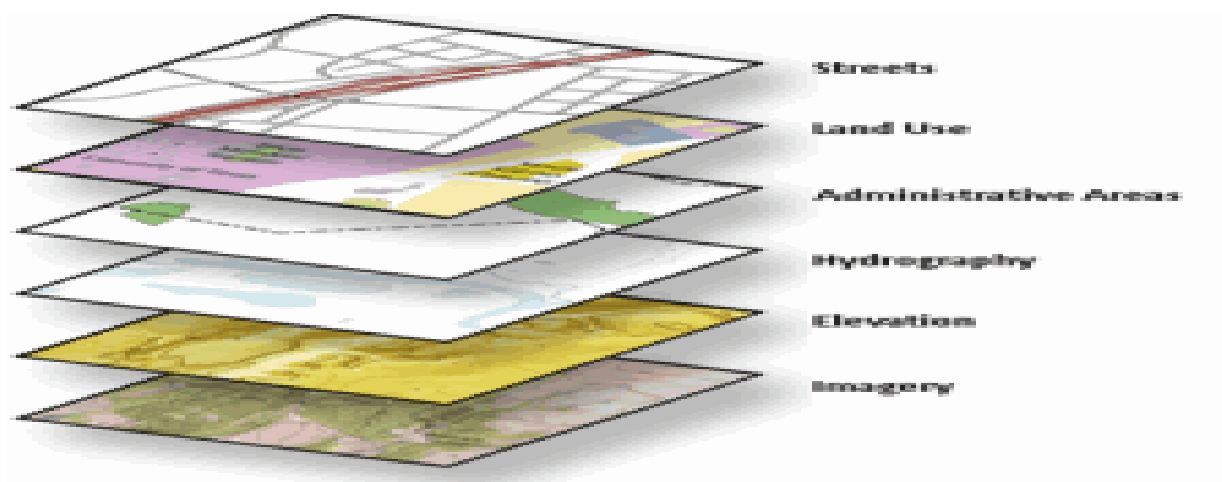


Figure 5.1 Thematic layers for a specific area on the earth

Concepts:

- Data input
- Data storage
- Data manipulation
- Data analysis
- Output of information.

5.6.2 Lesson 4

Lesson 4 dealt with remote sensing, map scales and geographic coordinate scales.

Remote sensing as one of the major data sources for GIS: This is the observation of the earth from a distance using satellites which gather information without being in contact with an area.

Photographs of astronauts lay the foundation for remote sensing.

The students in the groups brainstorm the advantages of remote sensing. The reporter must give feedback on what was discussed in the group.

Advantages:

- Cover a very large area;
- Data can be collected in inaccessible areas;
- The image quality is consistent;
- Observations can be made over a period of time;
- Can be used for disaster evaluation.

The next unit of Lesson 4 deals with map scales. students had to discuss the difference between the following two map scales.

- 1:50 000 topographical maps
- 1:10 000 orthophoto map

Differences:

- 1:10 000 map is bigger than the 1:50 000 map;
- Orthophoto maps show more detail;
- Can show small areas.

Geographic coordinate system

Lines of latitude

Lines of longitude

Map projections

Again the students were reminded of their roles. Each group gave feedback after their discussion of a unit of work. The participation of the students ensured the success of the lessons. I observed that all the students were engaged in discussion and the report back sessions was positive. I was eager to hear what my triangulator had to say about the lessons. Given the participation of the students, there was a sense of success and that I had achieved my objective to successfully implement cooperative learning and bring the students together to communicate and put their differences aside.

5.7 Reflection on second research project

It is clear that reflection plays a key role in action research. Reflection is a way of integrating your experience with learning. My reflection was part of my practice to evaluate how I grow during the process. As with the first action research project, I reflected on my second action research project. The change in the composition of the groups worked well. The students seemed more willing to participate and to communicate more freely with fellow group members.

As I note the experience of the students during the first action research project, it is evident that the different roles assigned to the students worked well and they motivated each other to give an opinion. The authority that was delegated to the students in the form of the different roles made them feel in charge and ensured that they gets done and fellow group members got the necessary assistance. They are empowered. I try to implement some of the suggestions that the students make in their feedback to me. Feedback from the groups keeps me on track. I try to talk more slowly and explain in more detail before they brainstorm and discuss concepts.

As with the first action research project, I did not experience any discipline problems. In the groups I sense an increasing enthusiasm to interact with each other. Generally I

regard myself as an average teacher. But now I experience renewed energy and enthusiasm. This can largely be attributed to the new content knowledge and the cooperative nature of the lessons.

In offering feedback my triangulator was impressed at how I allowed the students to proceed in the groups with their discussions and not dictate to them how to do it. My role as facilitator was to guide and give advice to the groups with the aim of improving the cooperative learning experience and trying to foster relationships amongst students. It can be said that the students act in a more focused and responsible manner.

What I and the triangulator agreed upon was that more time was needed for cooperative lessons. I can safely say that cooperative lessons take longer than traditional lessons. In conclusion, I felt that the second action research project went well. I was more confident when presenting the lessons and experienced a sense of self-fulfilment.

In the following chapter, which is the final chapter, I summarise, reflect and explain my that my two action research projects had been empowering, transformational and fulfilling exercises. I also raise the issue of teachers as transformative intellectuals and researchers, and the way that they can contribute to the enhancement of social cohesion and good citizenship in an emerging and developmental democratic South Africa.

CHAPTER 6

CONCLUSIONS AND RECOMMENDATIONS

6.1 Reflections on cooperative learning in the classroom

The preceding chapters reflected on the way that cooperative learning could develop a better citizen, with specific reference to educators and students in a Grade 10 Geography classroom. Reflection, according to Elliot (1991), is characteristic of an action research project.

I developed my understanding of the usefulness of action research as a systematic approach to improving group activities and effectively changing my classroom practice. The challenge in this research was to explain the possibility of change through working together and cooperating with one another. My work was particularly influenced by theorists such as McNiff (2007), Habermas (1972), Freire (1972) and McLaren (2006). These two action research projects were mere attempts to understand and improve my classroom practice as a teacher researcher.

When reflecting on cooperative learning in the classroom I can honestly say that the students responded with great enthusiasm to the cooperative learning lessons. Generally with the traditional method students do not feel free to participate in lessons, but with the cooperative method the learners were freer and became actively involved.

Students took responsibility for their own learning and became active participants in the learning process. The transformative classroom contributed to a large extent to the way in which students engaged with each other and how they became active contributors to their own learning experience. The students enjoyed the two action research projects and the cooperative nature of the lessons. They did not shy away from giving their opinions when necessary. I was impressed.

As a teacher I found the transformed classroom interesting and stimulating. During the research project one issue that constantly emerged was that the students can work together in a cooperative manner and become more tolerant of each other. That was indicative that there were improved relationships. They accepted and respected each other in the groups.

I agree with Lazarowitz and Karsenty (1990), who are of the opinion that cooperative learning can impact on student relations. Furthermore, these students support each other in the different groups.

During the cooperative lessons the students, who were generally very noisy, are now more constructively engaged in discussions and actively participate in the groups for the better part of the lessons. It was very encouraging to observe that the students were serious about their learning and displayed a positive attitude towards their work. The use of the cooperative learning method was geared towards group work and group-centeredness as opposed to the traditional method, which focuses on teacher centeredness. The students

commented on how they learned more during cooperative learning and were constructively involved and therefore would like to see the cooperative learning methodology of learning being extended to other subjects as well.

6.2 FURTHER RESEARCH

There are several issues that arise from this study that warrant further research.

- Using action research to improve group work in a classroom;
- Teachers as action researchers;
- Group work in multicultural classrooms.

I believe that this action research project contributed to the empowerment of both students and myself as a teacher researcher in my Geography classroom. The focus of this research was to build social cohesion through cooperative learning in a Grade 10 Geography classroom. Although the focus of this research project was to build social cohesion, I think that it was a far more enriching and transformative exercise for me as a teacher. It changed the way I will teach in future and engage with students in my classroom.

6.3 Educators as transformative intellectuals and teacher researchers

In this mini-thesis I explained the idea that teachers must be both transformative intellectuals and teachers researchers, as stated by Giroux (1988). He mentioned a variety of reasons for this:

First, it provides a theoretical basis for examining teacher work as a form of intellectual labour, as opposed to defining it in purely instrumental or technical terms.

Second, it clarifies the kinds of ideological and practical conditions necessary for teachers to function as intellectuals.

Third, it helps to make clear the role teachers play in producing and legitimating various political, economic and social interests through the pedagogies they endorse and utilise. As a teacher researcher I believe in change and that transformation is a journey that is as constant as change. So for me is it not business as usual in my classroom, as this action research project has transformed my practice and prepared me for the future. That's why I embrace the transformation that has taken place in me. This transformation will have a great impact on my future teaching, ensuring that we collectively as teacher and students benefit from the learning process to work together cooperatively.

South-Africa is a nation with immense social and economic potential, but the key to unlocking this potential is harnessing the intellectual potential of educators in our schools. Teachers must be the driving force as researchers in the next decade and beyond, the future academics. Educators must act as key agents of change in an attempt to become

transformative intellectuals. It is the opinion of the researcher that teacher researchers are challenged and if given the necessary support and opportunities they will fulfil their potential.

Publishing remains a cornerstone of education and teachers should be encouraged to publish. This strengthens the idea that higher education institutions should provide the democratic space to encourage in-service teachers to become teacher researchers and reflective classroom practitioners, and to take up the contemporary challenge of shaping and strengthening education, as stated by Esau (2013). Wagid (2011) encourages supervisors to create ample opportunity for teacher researchers to think, argue and write imaginative texts.

More than merely exposing them to applying the techniques associated with action research and encouraging them to become more critical, imaginative and argumentative as teacher researchers, teachers must also become community activists who believe that education has a central role to play in challenging issues on the educational front.

The transition from teacher to researcher remains fundamentally a challenge. The low enrolment rates of teachers for postgraduate programmes at universities coupled with financial constraints and a lack of academic preparedness are some of the reasons why there is shortage of teacher researchers in South Africa.

According to a study conducted by Marc Gurgand and Adrien Lorenceau from the Paris School of Economics and Thomas Melonlo from Agence Francaise de Development, using information supplied by South-Africa's Department of Higher Education, tuition fees for tertiary education in South-Africa are relatively high in relation to average income per household, particularly when compared to the ratios on the enrolment of other developing countries (Memela, 2014). If any government is serious about having teachers as researchers, it must invest in post-graduate studies in education.

As teachers we should strive to become transformative intellectuals to significantly contribute towards building a better South-Africa for all. As part of becoming transformative intellectuals as teachers, we should provide intellectual and moral leadership to our learners. Teachers play a vital role in preparing learners to be active and critical citizens. In order for teachers to prepare our learners for full and responsible democratic citizenship, it is necessary to redefine oneself and enter the debate of transformative intellectuals through progressive teachers unions about the empowerment of teachers.

The choice of becoming a transformative intellectual is an act of self-imposition. Many reasons can be advanced why teachers choose to become transformative intellectuals, but in my case it is the experience I encountered when engaging with, highly influential, transformative and critical teachers and lecturers that convinced me to become a teacher researcher and transformative intellectual for the purpose of personal growth as well as for the enhancement of the lives of other oppressed people in my community and South Africa.

This action research project provided me with the opportunity to be a teacher researcher as well as a transformative intellectual. Lawrence Stenhouse (1975:57) has the following to say about teachers who work in the field of research and engage with researchers: "It is teachers who, in the end, will change the world of the school by understanding it.

Teachers as transformative intellectuals must see their classroom practices as a liberation from hegemonic practices (Klaasen, 2013). He further states that learners and teachers must consult each other. Thus as a transformative intellectual, I want to suggest with Darder (2007) that critical ideas and practices in the interests of democratic schooling must be central to our efforts to confront the powerlessness and uncertainty that is such a serious reality in many public schools today.

6.4 Reflection on my practice

During this reflective period I need to identify concerns and challenges with my practice that act as barriers in my attempt to build social cohesion. Amongst the concerns that I identified is the language of instruction and how it is implemented in my classroom. Having identified concerns and challenges for my teaching practice, I had to start think of new ways in which I would be able to improve my practice. In sum, my concern and challenges include the use of parallel medium of instruction as problematic to my teaching practice and my classroom that not embrace the notion of working together. The SASA promote multilingualism and every student has the right to be taught in his/her mother tongue. Whilst it contribute towards nation building, but it often limits me and force me into a situation where I tend to use more Afrikaans than English during my lessons and that is not conducive for diversity and social cohesion. The class comprise of more Afrikaans learners than English learners.

My plan of action to improve my practice after identifying my concerns and challenges, was to asked myself: What can I do to improve my practice. I must admit that with the one challenge that I identified, I did not have any influence over it. The language policy of the school of offering parallel medium instruction to learners is decided upon by the SGB and is institutionalised. One strategy that I developed as a plan of action to improve my practice that would ensure that I would always be aware of the language issue, is to do my planning in English. To address the culture of not working together in a cooperative manner to achieve a common goal I decided to promote interaction in the classroom. I design cooperative lessons where they would help each other and work together towards a common goal and generally begin to feel more positively about each other and interact constructively when performing collective tasks. Sherif and Sherif's (1956) two social psychologists proposed years ago that activities that promote working cooperatively towards a common goal tend to improve relationships.

On careful analysis and reflection on my own practice, I realised before I embarked on this action research project that there was a lack of participation and working together on the part of the students and that my own practice had certain defects. It appeared that I was doing all the talking and the students tend to be static and passive. I saw my role as

teacher to fill the students with content. They become collectors of knowledge. Traditionally my teaching was based on a transmission and absorption model.

My teaching initially consisted of the transmission of facts, skills and concepts. I viewed my teaching practice as primarily a mechanistic and technocratic process. I regarded the brain of a student as a blank slate – a “tabula rasa” that was empty and to be filled by me as a teacher with knowledge. In this transmission type of pedagogy, the teacher distributes conventional wisdom to learners through a series of lessons, lectures and rote learning. What I practised in my classroom was what Paulo Freire (1972) refers to as the “banking” concept of education in which students passively receive the knowledge that is deposited by the educator.

What I observed every year when we enrolled the new English Grade 10 students who come to the school is that when they enter my class they take seats next to students from their own race and who speak their language. Though there is no formal seating arrangement in my class, this disturbs me. All classes in the FET phase are parallel-medium. I pondered about this for a long time and realised that by using a cooperative learning approach, where they are mixed according to race and academic abilities, I could break that practice. The question arises of how I could change this and my practice as a teacher to create an environment of unity where all the students would feel free and comfortable to sit wherever they want to. Ramohai (2013).

An important aspect of reflecting on my teaching practice is that after employing cooperative learning in the classroom as a teaching strategy that is learner-centred and non-authoritarian, that encourages active participation on the part of the learners and as a teacher, I became a facilitator in the process of learning. From a constructivist point of view I realise that cooperative learning and group work play an important role in the learning process. Constructivists believe that learners do not learn from rote learning, but that learning is internal to learners and therefore they must construct their own meaning of what is to be learned. Constructivists believe that there are different interpretations of the same situation by different individuals. This means the constructivists do away with the notion that there is only one correct method.

During the action research project I grew immensely as a teacher. My role changed from that of authority figure on knowledge to that of a facilitator of knowledge. In order for me to get the students actively involved, I realised that I had to change my practice as a teacher. This was not easy but I managed to speak to my colleagues about this and they were very supportive of the idea. One of my colleagues suggested that to change your practice is not something that you need to fear, but is something that you should embrace as a teacher.

I would not be totally honest if I did not mention that I did not get the required outcomes during my two action research projects. This was my first attempt at action research and in future I would like to be more involved in action research, but the learners did acquire new knowledge and skills which they can put to good use in future. They learnt to:

- Express themselves;
- Explore new ideas;

- Be assertive and work together;
- Solve problems;
- Respect each other;
- Communicate freely;
- Construct knowledge.

Mc Niff (2002) reminds us that one of the essentials of action research is that the task is not finished when the project ends. Action research is an ongoing process. In encouraging reflection, the aim of the research project was to develop a framework for me where I can reflect on my own practice and improve it. This research was conducted to improve my own practice and to explore whether cooperative learning can improve social relationships among Grade 10 student. The context for my research and practice is my practice as teacher researcher and reflective practitioner at a school. Specifically, I focused on my practice as Geography teacher in the Further Education and Training band and the effects that cooperative learning might have on social cohesion in a Grade 10 Geography classroom. This action research project has yielded several positive results. Students can work more cooperatively with each other. Students embrace change as well as the differences that exist amongst them. The results from this action research project indicate that students from racially diverse backgrounds can work together in a class environment and build sustainable social relationships.

6.5 The future of action research

For the first time during this action research project I experienced the need to be more involved in action research in my classroom and in my school as teacher researcher. The issue is not only whether universities will be able to educate more action researchers in future, but whether they will be able to enhance the quality of education through action research. By that I mean training teachers as researchers.

Cohen (1998) contends that teaching is a distinctive form of professional practice which poses serious problems for programmes that seek to prepare teachers to carry out research effectively. This action research project was significant because it empowered me as teacher researcher. Action research with an emancipatory agenda cannot solve all the problems in education, but it can provide a valuable tool in supporting the transformation of South African education and society in the 21st century (Esau, 2010).

Where teachers investigate and reflect on their practice with the aim of improving it in the classroom, they are busy with action research. Zeichner (1999) describes the approach to study one's own practice as "the new scholarship". Action research is a well-developed research tool that is being used by social scientist coming into the classroom to do research on teachers and learners.

In the South-African context there is a vibrant culture of enquiry through studying one's own practices. The future of action research cannot be ignored as more and more teachers will engage in action research.

6.6 Implications of this action research project

This study was an attempt in developing a cooperative learning process in building social cohesion in a Grade 10 Geography classroom. The findings in this study are in line with what the literature suggests, namely that cooperative learning enhances social relationships and build social cohesion amongst students. Furthermore, research indicates that cooperative learning contributes to improved intergroup and interpersonal relationships in multicultural situations and promotes culturally diverse learners' self-esteem and academic achievement. The voice of educators regarding the implementation of cooperative learning is seldom heard. This study afforded students and teachers the opportunity to express their views on and perceptions of cooperative learning as an alternative teaching method.

As a teacher researcher I cannot claim that my action research project was successful in its entirety. This research project intended to move towards developing a cooperative learning process in building social cohesion among learners in a Grade 10 Geography classroom. However, since the students began to understand each other, show more tolerance and started to communicate freely with one another, I claim that cooperative learning promoted social cohesion amongst students. It seems that the learners took charge of their relationships. My action research project was an attempt to stimulate and create positive social cohesion. I experienced a high sense of social cohesion during the cooperative lesson, because nearly all the students voluntarily adhered to the rules of the cooperative lessons and research project. They demonstrated tolerance of differences in the groups and in their interactions with one another. When students demonstrate tolerance of differences and in their day-to-day interactions across social groups within a school or class, it may be said that the level of social cohesion is high.

Action research requires deep reflection, especially when teaching and researching my actions during the research process towards improving my practice. With the enthusiasm showed by the students who engage in this action research project was an indication that they wanted to take this opportunity to strengthen and building sustainable relations with the students from other cultural groups in the classroom.

This action research project can be seen as small step towards engaging in research that will build better relationships amongst students in classrooms. The results of this action research project are consistent with what other researchers found, namely that cooperative learning helps students in building relationships. Cooperative learning as a teaching strategy not only promotes acceptance and mutual respect for one another, but it also develops tolerance amongst the students.

I have come to be appreciative of action research in respect of improving my own teaching practice in teaching and learning. The positive response from my students towards this action research project suggests that even if the project was not hundred percent successful, I believe that as a community of cooperative learners we were on a journey towards good citizenship. Good citizens can be developed only through working together with different groups.

6.7 Conclusion

This action research study was a self-reflective journey to address my professional concerns regarding nation building through cooperative learning and social cohesion. This action research inquiry offers ordinary teachers like me an opportunity to venture into a research enterprise to set an example of how to articulate concerns, plan strategic action, monitor and collect evidence about the action steps, and reflect on processes and consequences. My immediate inquiry is always how my existing classroom situation can be improved. To enable me to answer the question: How can cooperative learning be used in a Geography classroom to build social cohesion amongst students? I had to study the literature and explore the nature and status of cooperative learning by engaging in this study.

Cooperative learning, though not the moral compass for social cohesion it could create the space for students to come together and work together. Furthermore cooperative learning can also contribute positively towards nation building and the transformation of the classroom. In this mini-thesis I describe my research as a process and not as an event. This is a process that I undertake, based on the rationale that education and in particular cooperative learning is not merely processes, but seek to promotes a democratic classroom environment. The title of this action research project was: "Toward building social cohesion in a Geography classroom": An action research approach. The purpose of this research was to build social cohesion. I have been able to work towards the aforementioned by employing cooperative learning and engage in a reflective practice.

I believe that my small action research project has contributed to building social cohesion towards establishing a better society. Because the classroom can be seen as a microcosm of our wider society (Schul, 2011), it is where nation building and social cohesion starts. I believe that one of the ways in which we can transform our schools and society would be through cooperative learning. This action research project was dynamic and empowering with full participation of the learners. Along this process the students gained new knowledge. Action research and cooperative learning are powerful tools that can be used in the classroom to effect change and understanding the process of building social cohesion.

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ADDENDA

ADDENDUM	A	Letter of Permission to the Free State Department of Education to conduct research in schools
ADDENDUM	B	Response from the Free State Department of Education
ADDENDUM	C	Letter of Permission to the School Governing Body to conduct research in the school
ADDENDUM	D	Response from Luckhoff Combined School Governing Body
ADDENDUM	E	Letter of consent to learners and parents
ADDENDUM	F	Map of the Free State
ADDENDUM	G	Focus group interviews
ADDENDUM	H	Questionnaire to educators
ADDENDUM	I	Questionnaire to learners
ADDENDUM	J	Observation Report
ADDENDUM	K	Lesson 1
ADDENDUM	L	Lesson 2
ADDENDUM	M	Lesson 3
ADDENDUM	N	Lesson 4
ADDENDUM	O	Notice of meeting with parents and learners

ADDENDUM A

Mr B. Booyesen
68 Du Preez Street
Luckhoff
9982
24 February 2014

The Directorate: Strategic Planning, Policy & Research
Private Bag x 20565
Bloemfontein
9300

Attention: J.R.Phor

RE: Request for Permission to Conduct Research in School

TOWARDS A COOPERATIVE LEARNING PROCESS IN BUILDING SOCIAL COHESION IN A GRADE10 GEOGRAPHY CLASSROOM: AN ACTION RESEARCH APPROACH

Dear Sir / Madam

My name is Mr.B.Booyesen (Persal 80038557); I am a Registered M Ed Curriculum Science student at Stellenbosch University and a teacher at Luckhoff Combined School in the Xhariep District. The research I wish to conduct for my Master's Thesis involves;

Toward a cooperative learning process in building social cohesion in a Grade 10 Geography Class: An Action research approach.

This project will be conducted under the supervision of Dr O Esau of the Stellenbosch University, Department of Curriculum Studies.

I am hereby seeking consent to conduct research in Luckhoff Combined School and approach grade 10 learners to participate in the study. Herewith I provide a copy of my research proposal and a copy of proof of registration for 2014 academic year from the University of Stellenbosch.

Upon completion of the study I undertake to provide the Free -State Education Department with a bound copy of the report and a summary on a computer disc. I understand that costs relating to the study are my own responsibility.

If you require any further information, please do not hesitate to contact me on 0796903627 or booyesenbarry@gmail.com

Thank you for your time and consideration in this matter.

Yours sincerely

Mr B. Booyesen

ADDENDUM B

Enquiries: Motshumi KK
Reference:
Tel: 051 404 9290
Fax: 086 667 8678
E-mail: motshumikk@edu.fs.gov.za



OFFICE OF THE DIRECTOR: STRATEGIC PLANNING, POLICY & RESEARCH

26 March 2014

Mr.Booyesen B

RE: APPROVAL TO CONDUCT RESEARCH IN THE FREE STATE DEPARTMENT OF EDUCATION:

1. This letter serves as an acknowledgement for receipt of your research request in the Free State Department of Education.
2. Research topic: **Exploring the effects of cooperative learning on social relationships in Grade 10 Geography Classroom: An Action Research approach.**
3. Approval is granted for you to conduct research in the Free State Department of Education.
4. This approval is subject to the following conditions:-
 - 4.1 The names of participants involved remain confidential.
 - 4.2 The structured questionnaires are completed and the **interviews are conducted outside normal tuition time or during free periods.**
 - 4.3 This letter is shown to all participating persons.
 - 4.4 A bound copy of the research document and a soft copy on a computer disc should be submitted to the Free State Department of Education (Strategic Planning, Policy Development & Research).
 - 4.5 You will be expected, on completion of your research study, to make a presentation to the relevant stakeholders in the Department.
 - 4.6 The attached ethics document must be adhered to in the discourse of your study in our department.
5. The costs relating to all the conditions mentioned above are your own responsibility.
6. You are requested to confirm acceptance of the above conditions in writing, within seven days after receipt of this letter. Your acceptance letter should be directed to:

**DIRECTOR: STRATEGIC PLANNING, POLICY AND RESEARCH,
Old CNA Building, Maitland Street OR Private Bag X20565, BLOEMFONTEIN, 9301**

Thank you for choosing to research with us. We wish you every success with your study.

Yours faithfully,


Mothebe MJ –Director: Strategic Planning, Policy & Research.

Directorate: Strategic Planning, Policy Development & Research - Private Bag X20565, Bloemfontein, 9300 – Room 301, Old CNA building,
Charlotte Maxeke, Bloemfontein 9300 - Tel: 051 404 9283/ Fax: 086 6678 678 E-mail: research@edu.fs.gov.za

www.ficedu.gov.za

ADDENDUM B

Enquiries: JR Phori
Reference: Ethics Doc
Tel: 051 404 9258
E-mail: phorij@edu.fs.gov.za



**OFFICE OF THE DIRECTOR:
STRATEGIC PLANNING, POLICY AND RESEARCH**

Mr.Booyesen B

26 March 2014

Sir

RE: ETHICAL REQUIREMENTS: FREE STATE EDUCATION

The scientific research enterprise is built on a foundation of trust and that the reports by others are valid. The reports should reflect an honest attempt by the researcher to describe the world accurately and without bias; this trust will endure only if the researcher devotes himself or herself to exemplifying and transmitting the values associated with ethical research conduct.

There are many ethical issues to be taken into serious consideration when conducting research. The Free State Department of Education believes that the researchers conducting research in this department would, amongst others, adhere to the following ethical conduct:

1. ETHICS: GENERAL APPLICATION:

- Researchers need to be aware of having the responsibility to secure the actual permission and interests of all those involved in the study;
- They should not misuse any of the information discovered;
- There should be a certain moral responsibility maintained towards the participants;
- There is a duty to protect the rights of people in the study as well as their privacy and sensitivity;

Private Bag X20565, Bloemfontein, 9300
Old CNA Building, 1st Floor, Charlotte Maxeke Str, Bloemfontein
Tel: (051) 404 9283 E-mail: mothebem@edu.fs.gov.za

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ADDENDUM C

Mr B. Booysen

Du Preez Str 68

Luckhoff

9982

17 March 2014

The Chairperson and the School Principal

School Governing Body

Luckhoff Combined School

Luckhoff

9982

Dear Sir/ Madam

RE: Request to Conduct Research in the School

My name is Mr. B. Booysen and I am an M Ed Curriculum Science student at Stellenbosch University and a teacher at the school.

I hereby request permission to conduct research in the school. I already apply for permission to the Free State Department of Education to conduct research in the school.

The research I envisage to conduct involves:

“EXPLORING THE EFFECTS OF COOPERATIVE LEARNING ON SOCIAL RELATIONSHIPS IN A GRADE10 GEOGRAPHY CLASSROOM: AN ACTION RESEARCH APPROACH

By seeking your consent to conduct research in the school I will furnish you with a copy the approval letter from the Free State Department of education to conduct research in the school. If permission is granted to proceed with the study I will adhere to the following conditions:

- Present a copy of this letter to my Supervisor Dr Esau at Stellenbosch University
- Approach the learners and parents for their permission and consent to take part in this study
- I undertake to and will make every effort to obtain the goodwill and cooperation of the parents, teachers and learners
- No subject involve in the study will receive any remuneration from me
- The research will be conducted after school hours so that the normal school hours is not interrupted

If you have any questions about the study, or if you would like additional information to assist you in reaching a decision, please contact me on 053 2060115 at the school

Thank you for supporting me in this study

Yours Sincerely

Mr. B.Booyesen

ADDENDUM D



GEKOMBINEERDE SKOOL LUCKHOFF

Posbus 141

Luckhoff

9982

Tel/ Faks: 053 206 0115

Phil Saunderslaan

Teisesville

2014 March 26

Mr B.Booyesen
Du Preez Street 68
Luckhoff
9982

Dear Mr Booyesen

Re: Request to Conduct Research in the School

It gives me great pleasure to inform you that your request has been granted and you have the blessing of the SGB to commence with your research.

Please feel free to contact us if we can assist you in any way.

Yours in education

Duly Signed
J.Coetzee
Chairperson SGB

ADDENDUM E

Mr B. Booysen

Du Preez Str 68

Luckhoff

9982

14 March 2014

Dear Parents

I am writing to ask permission for your child to participate in a research project on the following:

TOWARD A COOPERATIVE LEARNING PROCESS IN BUILDING SOCIAL COHESION IN A GRADE10 GEOGRAPHY CLASSROOM: AN ACTION RESEARCH APPROACH"

This research project in which your child has been invited to participate is expected to be enjoyable and will require from him or her to attend a series of lessons and complete a questionnaire. This research will be conducted out of normal school hours and will not in any way interfere with contact time.

All learners' participation is considered confidential and their responses and identity will be kept confidential and will not be shared with the staff. Only learners in Grade 10 who's parents give parental consent and who themselves agree to participate will be involved in this research project. I would like to assure you that this study has been approved by the ethics committee of Stellenbosch University.

In addition it has been approved and consented to by the Free State Education Department and has the full support of the Principal and School Governing body of the school.

If you have any questions regarding the study, or if you would like to have additional information please feel free to call me on **053 2060115** at the school.

Thank you in advance for your support in this project.

Yours Sincerely

Mr. B. Booysen

ADDENDUM F

Map of the Five Education Districts in the Free State Province



ADDENDUM G

Focus group interview with the learners

The following questions were discussed.

- 1 How did you experience geography teaching?
- 2 Were you ever exposed to other teaching methods apart from the traditional method?
- 3 How do they feel about other teaching methods?
- 4 In particular how do they feel about cooperative learning?
- 5 What is it that you enjoyed most of the cooperative lessons?
- 6 Did cooperative learning allow you to know your classmates better?
- 7 Did cooperative learning make you in any way change your opinion with regard to other learners in your classmates?

ADDENDUM H**GENERAL INFORMATION QUESTIONNAIRE ON COOPERATIVE LEARNING**

Information regarding the use of cooperative learning as an alternative teaching strategy in a classroom

- This questionnaire consists of **TWO** sections; Section A and B
- Do not write your name or the name of the school on the form
- Please read the statements and choose a corresponding answer you think best suit the question or statement and mark it in the corresponding block

SECTION A

For the purpose of the study, we need a few details about your school. We want to remind you that all our analyses are aggregated so that your responses are kept confidential. PLEASE do not write your name on the questionnaire. Respond to the question regarding you by marking it with an X in the solid block provided or by filling the response in where required.

1. What is your gender	Male		1
	Female		2
2. Number of years as a teacher?	Up to a year		3
	2-3		4
	4-5		5
	6-10		6
	11-20		7
	20>		8
3. Number of years teaching your subject?	Up to a year		9
	2-3		11
	4-5		12
	6-10		13
	11-20		12
	20>		14

4. What is your highest qualification	Diploma in Education		15
	HDE		16
	ACE		17
	PGDE		18
	B Ed		19
	B Ed (Hons)		20
	M Ed		21
	D Ed		22
	PhD		23

SECTION B

Cooperative learning as a teaching strategy					<i>For office use</i>
5 In general how much time in an average week is devoted to cooperative learning activities in your subject?					
None				1	24
1- 29 % Of the teaching time				2	25
30- 59% of the teaching time				3	26
60 – 100% of the teaching time				4	27
6 The role and task of the teacher in cooperative learning differentiate from a teacher central approach. To what extent will the following aspects contribute to the importance of the teacher's role.	Not at all	To a small extent	To a large extent	Very large extent	
Teacher is the facilitator	1	2	3	4	28
Teacher must teach social skills	1	2	3	4	29

Design of cooperative learning activities	1	2	3	4	30
Monitoring and control of group activities	1	2	3	4	31
Support towards materials and assignments	1	2	3	4	32
Support towards responsibilities and group roles	1	2	3	4	33
Provision for report back sessions and rewards groups for performances	1	2	3	4	34
7. Cooperative learning techniques					
	Not at all	To a small extent	To a large extent	Very large extent	
STAD	1	2	3	4	35
Jigsaw Techniques	1	2	3	4	36
Teams Games Tournament	1	2	3	4	37
Peer Tutoring	1	2	3	4	38
Small Group Teaching	1	2	3	4	39
Integrated cooperative reading and writing groups	1	2	3	4	40
Group investigations	1	2	3	4	41
Team Support Groups	1	2	3	4	42
8. To what extent will the following learning outcomes be achieved by implementing cooperative learning activities in the class room?					
Cooperative learning outcomes	Not at all	Small extent	Large extent	Very large extent	
Improvement in learner performance	1	2	3	4	43

Enhancement of intergroup relationships	1	2	3	4	44
Positive interaction amongst learners	1	2	3	4	45
Individual responsibilities	1	2	3	4	46
Face to Face interaction	1	2	3	4	47
Social and small group skills	1	2	3	4	48
Reflection on own work	1	2	3	4	49
Experience of Cooperative learning					
9. Experience of Cooperative learning	Not at all	Small extent	Large extent	Very large extent	
I have discussed cooperative learning with other teachers and tried some of their ideas in the class room	1	2	3	4	50
My learning facilitator or HOD trained me in cooperative learning	1	2	3	4	51
I have take part in training on cooperative learning organised by the district	1	2	3	4	52
I have participated in a full module at a higher learning institute on cooperative learning	1	2	3	4	53
I have participated in a workshop on cooperative learning organised by the school	1	2	3	4	54
I have participated in a workshop on cooperative learning organised by external service providers	1	2	3	4	55
I have read an article on cooperative learning in the library or internet.	1	2	3	4	56

10. To what extent have you used cooperative learning presenting your subject in any of the following cooperative techniques in your class room?					
Areas of Cooperative learning techniques	Not at all	Small extent	Large extent	Very large extent	
Small group work	1	2	3	4	57
Jigsaw	1	2	3	4	58
Group investigation	1	2	3	4	59
Quiz Bowl	1	2	3	4	60
Research Project	1	2	3	4	61
Team Tournament Games	1	2	3	4	62
Role play	1	2	3	4	63
11 When learners work together in groups in your class, how often do you use the following to organise and encourage cooperative learning activity?					
Effective use of Cooperative learning	Not at all	Small extent	Large extent	Very large extent	
Provide groups with limited materials to force members to share materials	1	2	3	4	64
Provide individual group members with special materials to force sharing if there is to be a successful completion of the group task	1	2	3	4	65
Assign special roles to certain group members to ensure that all must work together to produce a final product	1	2	3	4	66
Provide marks or rewards to individual group members based on the performance of the entire group	1	2	3	4	67
Monitor and intervene in group activities to encourage balanced	1	2	3	4	68

participation and to simulate cooperation					
Usually provide groups with feedback on my observations of group behaviour and the use of cooperative skills	1	2	3	4	69
One group member is assign to observe group actions and to report on group activities	1	2	3	4	70

Adapted and modified from Van Wyk (2007)

ADDENDUM I

Questionnaire to the learners

Tell us about yourself *Please tick (✓) in the box*

Please answer the following questions honestly

What is your gender	Male	
	Female	
What is your Race	African	
	Coloured	
How old are you		

- List the things that you enjoyed most about working with member in a group?
.....
- List the things that you have problems in the groups?
.....
- Was it easy to work with other member in the group?
.....
- How did the cooperative lesson help you and the group?
.....
- What did you do when a group member discuss something with you that you didn't understand?
.....
- What do you suggest that we can do better in cooperative lessons? Explain briefly
.....
- Did cooperative learning help you to improve your relationship with fellow learners? Explain
.....
.....
.....
- Did cooperative learning make you change your opinion of other learners? Explain.
.....
.....
- Did cooperative learning make you understand the other learners better?
.....
- Did you enjoy the cooperative lessons?
.....

ADDENDUM J

Observation report

My traingualator was positive about the action research projects. He was positive about the research outcomes. He also mentioned to me that it will be his first time that he will observe a cooperative lesson.

He mentioned that the learners were at first a little shy but as we progress with lessons the learners become actively involved. About the noise levels he comments that it is good it take place after school otherwise we could have experience problems with the other educators.

He recommends that instead of verbally do the role allocating I should consider making cards to hand out to the learners that have the different roles. He also mentioned to organise the class the previous day, but because other educators also use the class I normally arrange the class setting just before they arrive.

He also refers to phenomena what he calls free riders who do not participate or give inputs but benefit at the end with the entire group.

Overall he was impressed with the way the learners respond to the cooperative learning lessons.

ADDENDUM K**LESSON 1**

Module	GIS	Lesson Content	Introduction to GIS
Learning outcome	LO 1	Assessment Standards	As 1.1; 1.3; 1.5
Key question	What are the key features of GIS? What is the information age?		
Prior knowledge	Basic map skills		
Resources	PC, GIS notes on the basic software, chalkboard, data projector		
	What will the teacher do	What will the learner do	
Introduction	Introduce the concept of information age and GIS	Listen, Discuss in groups and ask questions	
Body of Lesson	Discuss the impact of information age on society and themselves The concept of data and its link to certain location: Video clip: What is GIS	The class to watch the video clip and to give input. Discuss ideas where particular skills may be used in the industry	
Conclusion	Importance of GIS and the information age	Learners to copy the concepts into their note books. Learners to answer the questions on the work sheet.	
Expanded opportunities	Use the computer after school, Look on Google earth on the internet	Access Google earth at www.googleearth.com	
Assessment Activities	Complete the activity, Graphic representation		
Assessment instrument	Data collection method, Listening, questioning, reading skills: Memorandum		

Activity 1: Worksheet

Execute the following tasks

- a) In groups of four to five, discuss how the information age has impacted on your life. Report back to the groups on your findings

- b) Write a letter to your grandmother, who has never used a computer or a cell phone, describing what is meant by information age

- c) Draw a map using your own example that shows the key feature of GIS

ADDENDUM L**LESSON 2**

Module	GIS	Lesson Content	Definition of GIS, components of GIS and the use of GIS
Learning outcome	LO 1	Assessment Standards	As 1.1; 1.3; 1.5
Key question	What is GIS about?		
Prior knowledge	Basic map skills and knowledge about computers		
Resources	PC, GIS notes on the basic software, chalkboard, data projector, Video clip		
	What will the teacher do	What will the learner do	
Introduction	Introduce the concept of GIS as a link to map interpretation and as a skill for teaching geography	Listen, add comments and questions. Work in your group discussing what is point, line and polygon features and identifies them on the map.	
Body of Lesson	What is GIS used for and what components make up the GIS system. Show the video clip	In your cooperative groups study the notes, follow the lesson and brain storm ideas	
Conclusion	Answer the questions, discussing discrepancies in answers. Allow for some interpretation if answer has been justified	Learners understand the concepts illustrated in the lesson	
Expanded opportunities	Use the computer after school.	Play with Google earth and try to find your own suburb	
Assessment Activities	Complete the activity, Questions and research project		
Assessment instrument	Data collection method, Listening, questioning, reading skills: Memorandum		

Activity 2: Worksheet

Execute the tasks and answer the questions

- a) Give examples of how GIS can be used in your community and think of a project you could do using GIS

- b) What do you need for a GIS system to work?

- c) Name the components of GIS

- d) Write a definition of GIS in your own words

ADDENDUM M**LESSON 3**

Module	GIS	Lesson Content	GIS, raster and vector data
Learning outcome	LO 1,2	Assessment Standards	As 1.1; 1.3; 1.5

Key question	How is GIS represented on a map?
Prior knowledge	Basic map skills and Topographical maps
Resources	PC, GIS notes on the basic software, chalkboard, data projector

	What will the teacher do	What will the learner do
Introduction	Introduce the concept of a cake and what layers the cake consist of and link it to the layers of GIS	Listen add comments and listen
Body of Lesson	Concept of layering. Discuss spatial patterns, Illustrate raster and vector data and these are represented on a map	In cooperative groups learners must study the notes and answer the questions on worksheet
Conclusion	Answer the questions, discuss discrepancies in the answers	Learners understand the concepts illustrated in the lesson
Expanded opportunities	Learners to prepare a map of the area where they live using points, lines and polygons	In the groups learners draw a map of the town using vector information
	Complete the activity, Practical work and graphic representation	
Assessment instrument	Observation, Drawing skills, reading skills: Memorandum	

Activity 3: Worksheet

Execute the following task

- a) Draw a vector map that includes points, lines and polygons of your school. Include in a key the identifies the features on the map

- b) Draw a raster map of your school

- c) Which map of the above maps is the most accurate in terms of identifying specific features?

- d) Define the term spatial resolution

- e) Explain the difference between high and low pixel resolutions

ADDENDUM N

LESSON 4

Module	GIS	Lesson Content	Introduction data acquisition
Learning outcome	LO 1	Assessment Standards	As 1.1; 1.3; 1.5
Key question	<p>How does data obtain its data?</p> <p>What are the importance of scale, coordinate systems and map projections?</p>		
Prior knowledge	Basic map skills and topographical maps		
Resources	PC, GIS notes on the basic software, chalkboard, data projector, Globes		
	What will the teacher do	What will the learner do	
Introduction	Revise what is meant by data and information	Listen, add comments and questions, Identify differences in remote sensing images	
Body of Lesson	Illustrate concept of scale, coordinate systems and map projections	In the groups learners discuss, brainstorm the notes and answer the questions on the work sheets	
Conclusion	Answer question and discuss possible answers, Allow for different interpretation	Learners understand the concepts illustrated in the lesson	
Expanded opportunities	Prepare a map of the world on a orange as illustrated in class.	Learners draw a map of the world on an orange	
Assessment Activities	Practical work, graphic representation and models		

Activity 4; Worksheet

Why do mapmakers use a map projection?

Outline the main features of one of the Lambert projection

Develop a game, which includes the use of scale and a simple coordinate system. This game must be played between four players.

Addendum O

Notice of Meeting with Parents and Learners

Dear Parent

Re: Meeting in relation to my research project

You are hereby invited to attend a meeting at **LUCKHOFF COMBINED SCHOOL** in the Geography class of **Mr B Booysen** in connection with the intended research project in which your child has been invited to participate in. **Time 17h00, 23 April 2014.**

Agenda

1. Opening and Welcome
2. Apologies
3. Introduction of parents
4. My research project
5. General
6. Questions

Thank you for your sustainable support of the learners in particular and the school in general.

Yours in Quality Public Education.

Kind Regards.

Mr. B. Booysen